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Web-Enhanced Pedagogy in English Literature and Composition

by

Cameron Fraser

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the

requirements for the degree of Master of Arts

in

Humanities Computing

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July 23 2003

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ABSTRACT

Web-Enhanced Pedagogy in English Literature and Composition

by

Cameron Fraser

The World Wide Web (WWW) is a powerful pedagogical environment that can be used to great effect by the English Literature and Composition instructor. In this thesis, I review past and current uses of the WWW in the humanities and describe an "ideal" all-in-one site that integrates them, along with a proposed instructional resource sharing system. By comparing this "ideal" site with the literary computing web site I coded for the Department of English at the University of Alberta, I am able to identify obstacles to such a site, and offer some suggestions for overcoming them. I conclude that positive changes in how web-based instructional materials are recognized at the institutional and professional level will encourage the growth of web-enhanced teaching.

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Chapter 1

INTRODUCTION: HYPERTEXT AND THE PEDAGOGICAL USE OF THE WORLD WIDE WEB

As an object of critical inquiry, hypertext is not new, but it remains a relatively fresh topic within the humanities. Indeed, many emerging or established scholars have looked to hypertext as a "cutting-edge" addition to their existing fields of expertise. The hypertext scholarship that does exist ranges quite broadly between enthusiastic support to outright skepticism, and it is often difficult to find an adequate and useful middle ground. Additionally, the seductive convergence of terminology between post-structuralist theory and hypertext often proves too tempting, and surprisingly superficial analysis often occurs (Miall, "Library" 1412).

As this early hypertext scholarship represented foundational work in a new field of inquiry it should be no surprise that mistakes due to exuberance were made, especially in the attempt to carve an original niche in academia while incorporating the ideas of recognized and influential thinkers. I feel that the primary difficulty that faced hypertext theorists at the time of publication in 1997 of Landow's *Hypertext: The Convergence of Contemporary Critical Theory and Technology*

was that the promise of hypertext was still somewhat of an abstraction. Existing hypertext systems, such as Landow's Intermedia, did not offer the rich linking features or distributed access he envisioned, primarily because the World Wide Web (WWW)—a global hypertext network that links together individual contributions—was still in nascent form. Speculation about the potential of hypertext was thus unchecked by empirical obstacles, and hypertext was theorized as a textual form that would eradicate and emancipate readers from the authoritarian prison of print. This hypertext is still abstract, and we might say, along with Pamela K. Gilbert, that it "has the potential to do all its proponents promise, and more. What it actually is or will be doing immediately may be a quite different story."

When Landow introduced Intermedia as a pedagogical hypertext, particularly suited to literary studies, this potential seemed limitless. Texts would now be tightly woven with contextual information: hyperlinks would connect the opening lines of *Paradise Lost* to passages from Virgil, Homer, and biblical texts from which Milton was drawing, and also to important literary criticism on the subject (Landow, "Hypertext" 174). These links would enact the intertextual model of literature described by Roland Barthes and Thaïs Morgan by allowing the reader to perceive and create interconnections between a

text and its culture and between a text and its critical discourse (Landow, *Hypertext* 10). Indeed, in Landow's formulation of Intermedia, the context for a particular text may extend far beyond the traditional boundaries of literary studies into materials on science and technology, fashion, sociology, etc. For Landow, this ability to cross disciplinary boundaries is a hallmark of all hypertextual systems, including Intermedia, encouraging interdisciplinary collaboration "by making materials created by specialists in different disciplines work together—collaborate" (95). This collaboration is produced solely or "automatically" by the hypertextual links between documents.

The hype about pedagogical hypertext that Landow created is immediately understandable, as this system promised the ability to demonstrate context, provide intertexual mapping, and facilitate interdisciplinary teaching, all highly valued pedagogical goals. Instructors who introduced Intermedia, it seemed, would help students become active readers, making choices about the pathways they chose in reading literary texts and establishing interconnections (Landow, "Hypertext" 176; Landow, *Hypertext* 186-7). Intermedia was able to "present networks of relationships while enabling the user to traverse those relationships with ease" (Landow, "Hypertext" 179). The early results from English classes using Intermedia also seemed to suggest

that a new golden age of literary instruction was upon us, if only instructors would introduce hypertext to their teaching. Student participation in class discussion soared in Landow's test classes and the quality of in-class and written contributions increased remarkably. Students, realizing how interconnected and interrelated everything was, did all their readings (183). Indeed, problems that had plagued teachers for "millennia" (182) would find their ultimate solution.

Of course, with the benefit of almost fifteen years of hindsight, I can be skeptical about Landow's claims, especially the ease and speed with which he claims "novice" students would be able to learn "the culture of a discipline" (Landow, *Hypertext* 128). Indeed, Jonathan Smith, among others, has noted that, for all their potential, Intermedia and its later manifestations such as *The Dickens Web* are not without their problems. Some students in Smith's course failed to use the hypertextual tool as Landow envisioned, approaching it in a "fundamentally passive way and hence were annoyed rather than gratified by the freedom it provided" (Smith 125). This passivity, I believe, was partly due to Smith's use of *The Dickens Web*, as he provided it primarily as a resource where students could explore contextual material and post their assignments. Of course, the fact that Smith was using a hypertextual environment in 1996, well before the

World Wide Web (WWW) and its possibilities for interactivity became as widely known as they are today, was a key facet to students approaching it passively. That said, hypertext remains a potentially useful pedagogical environment, one that, when used in harmony with foundational instruction, can provide great opportunities for collaborative learning. Hypertext systems purport to promote the following interdisciplinary goals in the classroom: community building and collaboration, researching and organizing ideas, publishing and sharing multimedia projects, integrating subject areas and integrating these with writing, and critical thinking (Li and Osborne 138). How exactly it promotes these goals will become clearer with a brief description of hypertext and the WWW.

Hypertext is a (potentially infinite) collection of discrete textual units—the so-called lexias—which are electronically linked, either by the creator or the user,[1] to other lexias. This linked web of textual units

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[1] While many hypertext systems do not necessarily provide features that allow users to modify or create links between lexias, this does not mean such implementations do not exist. The Everything Development Engine (http://www.everydevel.com) is an excellent example of a system that permits users to modify pages simply through the act of reading and add hyperlinks between lexias. Users automatically add so-called "soft links" at the bottom of lexias based on what lexia they came from and what lexia they proceed to, creating a user "trail" through the lexias. Users may also add these soft links by typing lexia titles into the search boxes at the top of the pages.

creates a "text" (in the Barthesian sense) which is "experienced as nonlinear, or, more properly, as multilinear or multisequential" (Landow, *Hypertext* 4). Readers are able to create their own text based on the links they choose to follow, creating a trail, which George Landow claims makes the reader a producer of the text, rather than simply a consumer. This reader-produced center of investigation causes the joining of "fundamentally different kinds of information and often violating what we understand to be both discrete print texts and discrete genres and modes" (Landow, *Hypertext* 40). The reader is not limited to simply following links set by the author, but can also attach links and add material to the text being browsed. "One is encouraged not so much to find as to make order—and to make it again and again" (McGann, "Rationale" 41). David Miall correctly notes that this characterization does not match up with his experience of the hypertext of the WWW, where the "infinite possibilities of response by each reader are limited to the few links prepared by the hypertext designer" ("Trivializing" 162). Indeed, Landow noted the very same limitation in describing the readerly possibilities of his early hypertext systems: "Although you cannot change my text, you can write a response and then link it to my document" (6). However, using scripting languages—programming code that allows web surfers to interact with a web

page—the possibilities can become reality. By serving up information stored in a database on the web server and allowing readers controlled means of adding to or linking to lexias, this reader-as-author model of hypertext can be implemented on the WWW.

For a literature and composition instructor, the WWW can thus be a valuable pedagogical tool. Instructors can set up discussion boards, post modules of instructional material that can be enhanced by colleagues, allow students to publish their work online and respond to each other's work. By using the "dynamic content" web programming model, this type of collaboration and "readerly" experience of a text is realizable on the WWW. By using the WWW as opposed to a stand-alone hypertext system such as Intermedia or HyperCard, instructors can use a technology with which the majority of their students will already be familiar—in 2001, more than 60% of all households in Canada had at least one regular Internet user, which was double the percentage of households using the Internet in 1997 (Statistics Canada)—and which is becoming increasingly available at universities throughout North America. By implementing these hypertext tools on the WWW, instructors can also draw on the wealth of information available on the web using hyperlinks that students will be able to follow seamlessly in a familiar web browser.

The web-enhanced pedagogy I am describing is consciously based on the "project approach" described by David Miall in "Rethinking English Studies: The Role of the Computer." In this pedagogical model, the computer is used to enhance the *re-reading* stage: the point at which, after an initial *experience* of the text where the reader's imagination is brought into play and transformations of self occur—the *reading* stage—the reader conducts an analysis of the text. The results of re-reading "are shareable, in a way that the affective transformations of reading are not; re-reading is based on processes of analysis and discussion that can be practiced in the classroom and, to some extent, instantiated on a computer" (53). This secondary analysis is where web-based tools may enhance literature instruction, and it is this application of the WWW that I am examining in the remainder of this work.

My purpose is not to discuss how humanities instruction can be conducted over the web as a substitute for face-to-face instruction. Indeed, I am describing how the web is used to create what Meg Twycross calls the "Networked" course, where pedagogical web tools are used to supplement private study and in-class exercises rather than simply replace face-to-face teaching. This type of technology integration is called "technology-enhanced learning"—where the instructional

principles are not altered by the technology, which serves to supplement this foundation—as opposed to a model of "technologized instruction" that radically alters the delivery of education through technology (Anson 169). In so doing, however, I argue that the most effective pedagogical use of the web and hypertext occurs when an instructor uses the tool on its own terms—finding a new way of doing things that harnesses the power and flexibility of the tool—rather than simply trying to replicate traditional methods on the web. This sentiment has been echoed by Katherine Fischer, who has the following advice for instructors approaching the web for use in a writing class: "Rather than using the web to replicate how print sources are used, capitalize on those features unique to the medium including its immediacy, its associative patterns of linking, and its interactive capacities" (156).

My purpose in this work is thus to examine how the WWW—as a global hypertext network—has been used pedagogically in the humanities, and to describe an "ideal" pedagogical website for English Literature and Composition instruction that will facilitate "technology-enhanced learning" by integrating these pedagogical applications into one website. This ideal site is an extension of the first-year literary computing website which I created for the Department of English at the

University of Alberta.

The following pages will describe how the web has been used in the humanities classroom to further these goals through the introduction of web-based research and course content, publishing student writing online, peer review, employing synchronous and asynchronous discussion, preserving course information, using computer-based text analysis tools for quantitative literary study, creating virtual classrooms, and introducing electronic resource sharing among students ("bootstrapping"). In most of these cases, the web has generally been employed to duplicate or enhance existing classroom situations. Though this is by no means a mistake, it does limit the tool's application, often without considering its potential. Indeed, as I will describe in the following chapter, the WWW can be used effectively to enhance more traditional teaching techniques, such as class discussion, peer review, and distributing photocopied handouts. However, by approaching the WWW on its own terms—that is, by gaining a thorough understanding of the tool, its mechanics, its potential, and its limitations—new pedagogical techniques that may not have been possible or feasible in the classrooms of two decades ago can be explored, such as bootstrapping, teaching resource sharing, and quantitative text analysis.

After considering these discrete pedagogical web-based applications, I will introduce my vision for a more integrated pedagogical web site that brings these applications together. After introducing this "ideal" website, I describe the literary computing website I created for the Department of English at the University of Alberta. This site does not include all of the tools of the ideal site, and I offer some reasons as to why they were not tenable in the current conditions of the department. I close the work by reflecting the promise of this style of integrated web-based pedagogical tools as attitudes towards electronic teaching contributions change, new web-based tools become available, and students and faculty become more and more comfortable using the computer for literary work.

Chapter 2

CURRENT PEDAGOGICAL USES OF THE WEB IN THE HUMANITIES

A great deal of attention has been given to how the Internet—including Usenet groups,[2] E-mail,[3] Multi-user Object Oriented virtual realities (MOOs),[4] Internet Relay Chat (IRC),[5] and the WWW—can be used to enhance Humanities education. Each of these protocols provide new communication options for the instructor and student. Usenet groups provide a discussion forum to supplement in-class discussion, answer student questions, and encourage students to collaborate on problem-solving. An example from my experience as a student was the use of a Usenet group at the University of Alberta in a Computing Science course, where students could post questions about assignments, lectures, and problems they were having with the equipment; describe

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[2] See Brian D. Monahan, *The Internet in English Language Arts*; Elizabeth Burow-Flak, "From Castles in the Air to Porfolios in Cyberspace"; Sarah Rilling and Enikö Csomay, "Building a Web for Literacy Instruction"

[3] See Larry Beason, "Preparing Future Teachers of English to Use the web"; Laura Mandell, "Virtual Encounters"; Margaret Healy Beauvois, "E-Talk."

[4] See *High-Wired:on the design, use, and theory of educational MOOs*, 2nd Edition, Ed. Cynthia Haynes and Jan Rune Holmevik.

[5] See Lynne Spigelmire Viti, "Who is Reading What I Write?"

how they overcame specific obstacles to help other students; and receive updates on administrative details of the course. E-mail and e-mail listserv offer one-to-one (what we might call "private" conversation) and one-to-many ("public" discussion) asynchronous communication between students and instructors that can be used to disseminate course information, follow up on class discussion, and maintain debate. Another example from my student experience was the use of an e-mail listserv in an African-American Women's Literature course where the instructor—and later, students—distributed supplemental material based on the topics raised in class discussion and student presentations. Students could also e-mail each other about specific points raised in class or, in my case, to ask to borrow books from other students in the class who had them on loan from the library. MOOs offer virtual worlds that have been profitably used as virtual classrooms, virtual conferences, and virtual theatre space for role-playing, to name only a few. Juli Burk has written about her use of MOOs as theatrical environments in teaching literature, demonstrating their use as a non-linear theatre that empowers role-playing and improvised performance, extending "beyond that of most stage actors because MOO players create their dialogue in the context of each exchange instead of Western theatre's tradition of delivering memorized lines of text" (239). IRC is a

synchronous communication tool that predates the earliest version of the World Wide Web by about four years (Stenberg) and offers instructors real-time chat and file-sharing features. Chat tools such as IRC are frequently mentioned in the literature as helping students "become aware of the relationship between themselves as writers, and their intended audience" (Viti). However, of all of these Internet tools, I feel that it is the WWW that offers the most opportunity to the English instructor, as it is capable of duplicating the functions of each of these tools, expanding upon them, and creating seemingly infinite new avenues of exploration and development.

The web has typically been employed to duplicate or enhance traditional pedagogical tools and techniques, often to great effect. However, many authors attempt to "sell" their use of the web by referring to how it replaces or supplements existing in-class situations, rather than attempting to explore how the web can be used to change how one teaches or what one teaches.[6] Both have their pedagogical

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[6] However, there are voices in the wilderness, including Lougee, who asked: "Could electronic resources offer a radically different, but satisfactory, pattern of course offerings and course-taking in the humanities?" (150). In answering this question, she sketches out a model of education which would rely on electronic media and telecommunications to:

uses, but are used to best effect in conjunction with classroom instruction. The remainder of this chapter is dedicated to reviewing the most common ways of incorporating the use of the web into teaching in English Literature and Composition: for student research and external course material, for student writing and publishing, for student peer review, for discussion, to create a "course memory," for quantitative text analysis, student-created web pages, creating virtual classrooms through all-in-one solutions, and electronic resource sharing. Each section is not meant to be an exhaustive bibliography of all documented examples of each style of pedagogical Web use, but rather is meant to explore a select number of examples drawn from the literature.

Research and Course Content

Of all the ways the web has been incorporated into English

> make possible the sharing of courses across universities or even team-teaching of courses by professors from different universities while they are in different locations.
>
> What would the consequences of such an innovation be? First, multi-university course offerings could evolve into unusually elaborated presentations, "super-courses" with state-of-the-art multimedia features that would remain beyond the reach of individual professors. Second, students' choices would be vastly expanded, and so would their autonomy as they pursue their education. Third, dozens of professors would be freed from the work of preparing lecture courses (150).

This view is an example of "technologized instruction" rather than "technology-enhanced learning."

instruction, using the web for student research and as a means to acquire course materials—that is, to incorporate contextual and textual materials on the web into the classroom—is the most common. Using the web for research naturally brings with it questions about the reliability of the information found. Part and parcel of the so-called democratizing power of the WWW is a complete lack of "filters" on the web, as anyone with Internet access can conceivably mount a web page on any topic. There are none of the traditional guarantees that library searches offer: "copy editors, the publishers with reputations to maintain, the book reviewers, and the acquisitions librarians" (Potter 182). Teaching students to discern good sites from bad, and how to search for contextual material effectively, then becomes an important part of incorporating web-based research into the classroom. Of course, teaching students to question their sources is a key component to a liberal arts education; however, the ease of finding web resources may seduce students into a sense of a streamlined research process.

An additional concern about this use of the web is the instability of web resources. A page that contained information and images about Victorian prisons may disappear without notice, either temporarily or permanently. However, this often frustrating trait of the WWW can become a useful illustration of the characteristics of knowledge. The

instability of the web shows students how

> knowledge changes with time, information, form of thought, academic discipline, synthetic and analytical expertise. . . . Experiencing the making of meaning in asynchronous conferences, written texts, and oral classroom discussion on a regular basis, they tend to discover that knowledge is contextualized, communicable, and community-owned, dynamic and shifting. . . . [M]any students begin to approach research as a dynamic exploration rather than a static recitation of facts as they grapple with new forms to express their own interpretations. (Sommers 60-61)

The dynamic and fluid hypertext structure of the WWW demonstrates these dynamic and communal attributes of knowledge and encourages students to think critically about what they view rather than simply absorbing static facts.

As mentioned, another benefit of the hypertextual structure of the web is that it provides an abundance of contextual information, easily accessed. In describing the pedagogical use of *The Dickens Web*, a hypertext tool based on Intermedia, Smith notes that the innovative format—allowing students easily to explore contextual information on Charles Dickens, Victorian England, *Great Expectations*, and *Middlemarch*—resulted in the students reading far more secondary material than in previous classes which had not used the hypertext web. "Their willingness to explore the web's contextual material was, I think,

facilitated not only by the ease of access but also by the atomistic quality of most of the web's information" (123). However, this ease of access and wealth of material may often be intimidating, especially to a novice or beginning student ("In Memoriam Web").

As the *Dickens Web* example suggests, using the web—or at least a hypertext tool—to provide course content, has many benefits, the most frequently cited of which is *access*. There are many examples of Web-based projects that provide valuable source material to educators: Project Gutenberg,[7] the Rossetti Archive,[8] and the William Blake Archive[9] to name but a few. Such digital archives on the web all hope "to democratize scholarship by providing the opportunity to conduct high-level research and sophisticated graduate and undergraduate instruction at institutions far removed from major research libraries" (Duggan 154). The availability of source material over the World Wide Web means that courses not possible otherwise—e.g., in the above case, a course studying rare and fragile manuscripts stored in rare book libraries across the world—can be conducted using the web in class (in

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[7] See http://gutenberg.net/

[8] See Jerome McGann, "The Rossetti Hypermedia Archive: An Introduction."

[9] See http://www.blakearchive.org/

much the same way as one would use photocopied transparencies) and providing links to the material to the students to use in their assignments and research.

In addition to contextual information and source texts, the WWW also provides access to hypertext fiction and poetry. As increasing numbers of literature departments offer courses examining this new writing medium and hypertext authors continue to publish their work online, it is certain that these texts will begin to appear on more literature course syllabi. Not only are these hypertexts meritorious of study as creative works, they also illustrate literary concepts about authorial intent and the search for meaning. In describing Stuart Moulthrop and Nancy Kaplan's experience of using hypertextual or "interactive" texts in class, Seth Katz notes that the

> instructors found that studying interactive fiction helped break down students' belief that a literary text has one correct reading. Because the hypertext fictions the students read had no single linear reading and no clear closure, the hypertexts frustrated students' expectations of textual authority. (146)

To this point, online materials have not displaced traditional print sources in terms of scholarly importance. David Miall describes the results of two surveys of the research reading of literary scholars, both of which indicate that printed books were considered of the highest

importance and frequently cited, while Internet resources and electronic texts were rated least important and were cited least frequently (Miall, "Library" 1408). As I will be discussing in the final chapter, I believe this is a declining trend as peer reviewed electronic sources continue to emerge and faculty evaluation committees begin to recognize the value of these sources. For instructors, the WWW still provides easy access to contextual information, annotated texts, and new styles of writing, and acts as a valuable instructional technology in teaching research methods and providing course material.

Publishing Student Writing

The WWW, as originally conceived, was to be "a wide-area hypermedia information retrieval initiative aiming to give universal access to a large universe of documents" ("The World Wide Web Project"). This universe of documents is made up of web pages published on web servers throughout the world. A popular pedagogical use of the web, especially in writing and composition classrooms, is to use Hypertext Markup Language (HTML) to publish student writing on the web. This has many benefits, not the least of which is the very act of publishing. In Jean Boreen's experience, "[p]ublishing student work, in many cases, increases students'

enthusiasm for the task at hand" (86). Publishing student writing, especially in the context of a creative writing class also demonstrates the importance of reaching an audience.

> As the teacher, I can access students' work in progress from any computer connected to the Internet. The teacher is no longer the sole audience: by publishing on the Internet, my students benefit from "telementors," people from all walks of life who discover the students' work, comment on it, and offer them advice. My constructivist pedagogy is satisfied on the Internet. (Nellen 224)

This ability to reach an audience is an important benefit of this kind of pedagogy in that the web, as a publishing medium, provides an impetus to think about audience for a student's writing. Patricia R. Webb relates how, in her advanced composition course, "the Web offered an avenue for us to have a conversation about audience that was grounded in specific, concrete space—students could point to exactly where their work was going to be published and used, and students had clearly and specifically defined their audience" (127). Webb discovered that having her students write for an audience in the public sphere effectively illustrated a lesson that she had previously had difficulty driving home: "that writing is contextually situated and socially defined" (127).

Tammy Sue Winner conducted three case studies of composition

instructors who incorporated web-based tools in their courses. She found that, once practical obstacles such as laboratory and Internet access were overcome, publishing student writing on the WWW "acted as a catalyst for reflective action," allowing students "to consider their own views, weigh them, and present them in a way that would get them recognized" (11). Her conclusion, and that of the instructors in her case study, was that this reflection led to a more sophisticated understanding of the writing process.

These successes are examples of approaching the WWW on its own terms, rather than simply swapping one medium for another. Tharon Howard cautions that using the web in a composition classroom cannot simply be a direct replacement for the pen and paper, it must be approached reflectively, considering how the medium affects the audience. He concludes that asking "students to write a traditional essay for a 'general audience' in networked environments is essentially asking students to work against the technology" (238-9). To incorporate the WWW into the classroom effectively, the instructor must consider how the new technology can best be used on its own terms.

There are also practical pedagogical benefits to publishing student writing on the Web: the constant access that provides students with their audience also allows instructors to intervene at earlier

moments and more frequently in their students' writing process. This intervention, possible when students publish their work from its earliest beginnings, prevents mistakes from being repeated and bad habits from being formed as the instructor witnesses the progress of the piece. Nellen observes that "[g]ood habits are instilled early in the writing process, eliminating the 'red-ink shock syndrome.' Previously, a student might have invested a lot of time in a paper, only to be disappointed when I returned it with a low grade. Now, I begin looking at work in progress from the time it comes into being" (224).

These benefits are not without their problems. Students must have access to the WWW, either at home or in computing labs on campus. Students will need to be taught how to use HTML writing tools and how to post their writing online. In addition, students may feel uncomfortable placing their work in an open and public arena (Mauriello et al. 412). Instructors will also invest more time in learning the technology, teaching it, and maintaining it, time which may not be compensated in any way by their department (Winner 12). However, as I will argue in the final chapter, there is reason for optimism on these fronts, and great benefits, which students can realize using the web to publish their writing, provide compelling reasons to overcome these drawbacks.

By having students publish their work online, they are also able to access each other's work, which presents great opportunities for web-enhanced peer review.

Peer Review

Peer review in composition and creative writing classes has been a very effective pedagogical tool in teaching students to revise their work, produce constructive criticism, and write for an audience larger than their instructor. Indeed, collaborative projects and peer review "allow participants to negotiate about important concerns, to learn both content and process from one another, to develop a sense of a classroom community, and to share and respond to one another's writing" (Sommers 65). This model of peer review is one of collaborative learning, which develops discourse through a community of knowledgeable peers (Bruffee 644).

By using tools such as message boards, chat, and student web pages, peer review can be conducted online. The immediate advantages to such a system are obvious, especially if peer review sessions are to be conducted outside of class. Students need not meet face-to-face outside of class—in my experience as a student, a very difficult thing to organize—and can preserve their reviewers' comments exactly, rather

than having to make notes or rely on their memory. While these are valuable skills, using the web allows students carefully and fully to review each other's work. Computer-based peer review, as a written rather than oral exercise, "allows students to respond spontaneously, yet offers them the opportunity to reflect on their ideas, rehearse their responses, and work at their own pace" (DiGiovanni and Nagaswami 269).

In their article comparing the use of face-to-face peer review with online peer review in an ESL class, DiGiovanni and Nagaswami noted that the online process was also more efficient: "When our students were online, they remained on task and focused. Many even commented on the quick passage of class time" (268). They also point out that the preservation of the student interaction, if made available to the instructor, also provides a learning opportunity, especially as peer review becomes a more important part of their academic career: "Upon reviewing students' negotiations, if the teachers find a peer dyad or an individual student making general or superficial comments, they can redirect them toward specific comments and critical and analytical negotiations" (268).

Thus, by making the peer review process easier and providing a persistent record of the student interactions, peer review using the web

(using message boards, chat, and web pages) is an effective alternative to the face-to-face peer review of the traditional classroom.

Discussion

"Whether it be for purposes of exploring nonfiction or literary readings, or for discussing reactions to issues or events, class discussion has become in the modern English classroom perhaps our most prominent and widely used pedagogical tool" (Sullivan 393). Allowing students to contribute their ideas is part of a more student-centred pedagogy, and ensures a more meaningful—often called "constructivist"—teaching. That said, there are obstacles and problems with class discussion, most notably in the classroom dynamic: certain students overpower others, dominating the discussion; social factors preclude some students from expressing opinions on particular issues. Kenneth A. Bruffee also notes that class discussion is often a misnomer, as "the person who does most of the discussing in most of our discussion classes is the teacher" (645). Despite these problems, class discussion remains a useful and popular pedagogical tool in literature and composition classrooms, and computing technology offers some solutions that can make class discussion more effective.

By conducting class discussion on the web—either with

asynchronous message boards or synchronous chat tools—some of these obstacles can be overcome.

> In an online environment, most of the ways in which we "read" other people socially (for better or for worse) are removed, and the social pressures that often keep shy, reserved, or socially marginalized students from participating in traditional class discussion are diminished considerably. (Sullivan 25)

In addition to the ability to remove some of the social barriers mentioned above, making web-based discussion tools available to students gives students more time to reflect on their contributions, rather than only having the opportunity to respond spontaneously in class (27). By writing their responses, students take greater care in developing points and arguments, which leads to more fruitful discussion. The written medium of the online discussion, as opposed to traditional verbal discussion, has important benefits as well. As Sullivan notes, the

> sheer volume of writing my students have to do gives them a great deal more practice articulating their thoughts and ideas in writing than they would normally get in a traditional classroom. This is a very important benefit over traditional verbal-based classroom discourse. (25)

However, in both asynchronous (e.g., message forums or discussion boards) and synchronous (e.g., chat features) web-based

communication, the differences due to this textual rendering of speech acts as a double-edged sword. Though the quality of one student's contributions invariably raises the quality of all subsequent student contributions, serious discussion can become difficult if "the clowns take over early" (Potter 185). In the case of verbal-based classroom discourse, the teacher can moderate discussion more effectively and social pressures tend to discourage clowning. Of course, these same pressures tend to stifle shy or unsure students as well.[10]

More practical problems may also arise while using web-based discussion tools. In the case of chat features, slow typing among some students can prevent them from effectively entering into the discourse. Discomfort about one's language abilities or fear of saying the wrong thing and having it preserved online can also deter some students from entering into the conversation or discussion group.

There are also practical benefits to this technology. By providing discussion tools on the web, students also have opportunities to use hypertext links to include research material and relevant contextual

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[10] "Over and over, I have seen students discover that they had thoughts that they would not have given themselves credit for, would not have known they were capable of because in most classroom situations they feel defined as less knowledgeable than the teacher, less verbal than so-and-so, less creative than so-and-so, not as smart as so-and-so" (Potter 187).

information in their contributions (Burow-Flak 183). Finally, a benefit that cannot be overstated, is how easy message forums—and to an even greater degree, chat forums—are to administer: "However integrated into the curriculum, message forums, once established, essentially maintain themselves, and can become vital extensions of group interaction" (184).

Course Memory

By preserving course information on the web an instructor can provide a "course memory,"[11] in the sense that materials and responses to those materials can be referred back to by students and the instructor. Placing the class syllabus and schedule, assignments, discussion questions, and student contributions to discussion online, gives students a cohesive and complete location to "remember" the course. A course web site has the additional benefit of allowing instructors to "illustrate relationships among individual works and groups of works, as well as the structure of the course as a whole" (Katz 140). Student contributions to online discussion can be archived and used in-class and gives students a sense that they are materially contributing to the class. This can become especially valuable in cases where instructors teach the

same course or subject area on a yearly basis. Not only is time spent developing web-based instructional resources more effectively, but it makes, in Rosanne Potter's words, "one's large past as well as latest current materials immediately available to students" (184). Anne Frances Wysocki created such a cohesive web site for a digital photography course, and found that not only did the site provide a memory of the course by creating a visual representation that allowed students to perceive the structure of the course, but students' perception of the "borders" of the class changed as well:

> Students can acquire such senses of structure and tone from paper materials as well, obviously, but Web materials can provide a sense of cohesion that is very different from that in a class in which all materials are on separate pieces of paper, spread out over the quarter and in various notebooks and pockets. Because our class materials were together on the Web, they felt as though they existed in one place, which class participants could reach from any networked computer on our campus, at any time; because of this, students said that class seemed to them to exist, and persist, beyond our three weekly face-to-face meetings as well as outside the space of our classroom: people in class said they felt they could visit class any time to see who was at work, adding to or changing their pages, and that they could build onto class at any time, day or night. . . . [T]he persistent visual center that the Web provided, around which class participants built their own continually changing sites, contributed to a sense that class had a life of its own in the ongoing in- and out-of-classroom work. (167)

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[11] This term is borrowed from Landow, who uses it to describe how hypertext can preserve course material for students in later courses.

By creating a dynamic—in the sense that it is frequently updated by both students and the instructor—course web site, instructors can not only avoid photocopy problems and collect all course materials in one place, but also create a sense of persistence for the course that will allow students to think about and contribute to class outside of the face-to-face meeting time.

Quantitative Text Analysis

Using computers to conduct quantitative literary analysis has a long tradition in literature studies. Quantitative literary analysis, at its essence, statistically describes the linguistic elements and structure of a text with a high level of accuracy (van Peer 302). As such, it can be a valuable pedagogical tool for instructors, and a valuable research tool for students. Computer-based literary analysis derives from the notion that "the computer is best at finding features or patterns within a literary work and counting occurrences of those features" (Hockey 66). If these patterns or features are of interest to the scholar—that is, if the search pattern or query has been carefully crafted so as to identify salient textual characteristics—the results will provide a view of the text that would be impossible to arrive at using manual methods. This ability to structure a search query or search question is also an

important learning opportunity, whether for a computer tool or through close reading (Miall, "Rethinking" 58).

Instructors can use computer text analysis tools pedagogically by encouraging students to explore texts on their own, using them in class to corroborate particular readings, and having students employ quantitative text analysis in their assignments. Pilot courses conducted in the 1980's using computer-based text analysis tools suggested that matters of lexis, syntax, and phonology were the most profitable areas in which to apply these tools (Hockey et al. 121). Teaching applications in these areas could encompass looking at word ratios in a text to draw conclusions about a writer's vocabulary, examining key terms to identify themes, creating word counts to study an author's use of similes, and identifying passages employing alliteration or rhyming patterns.[12]

Using these tools can be very effective in helping students to form initial readings of a text. Glyn Holmes provided an example of the improvement incorporating quantitative analysis into class discussion

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[12] For specific examples of how quantitative text analysis can be used in the literature classroom, see David S. Miall, "Rethinking English Studies"; W. van Peer, "Quantitative Studies of Literature"; Rosanne G. Potter, "What Computers Are Good For in the Literature Classroom"; and Susan Hockey, Jo Freedman, and John Cooper, "Computers in the Study of Set Texts."

brings: when students were asked for their intuitive sense of a particular poem's themes, they were able to identify four, and then but vaguely. When wordlists for the poem were brought into the discussion, students were able to articulate fourteen fully elaborated themes by clustering words into thematic categories (Potter 189).

However, these pedagogical benefits do not come without some additional responsibilities. Students need to be educated about what areas of inquiry will be most fruitful for quantitative analysis, and how to structure a query effectively.

> One of the basic problems in all of these operations is how to eliminate useless material, and, although this can be learnt by experience, it would seem necessary to give the beginner some examples, suggestions, and hints to illustrate how time spent initially thinking carefully about the details of the search, etc., can save a great deal of time when it comes to analysing the results. Areas in which computers are not likely to provide any interesting results should also be pointed out. (Hockey et al. 121-2)

Figurative language is an example of an area that is difficult to treat using quantitative analysis tools. The computing environment in which quantitative studies are conducted can also be intimidating to students who are accustomed to Graphical User Interfaces (GUIs). HyperPo (Hypertexte potentiel) is a quantitative text analysis tool developed using WWW scripting languages to provide these

quantitative analysis features over the web (Sinclair). Users can feed electronic texts into HyperPo and conduct text analysis using nothing more than a standard web browser, a tool with which most students are familiar. Tools and analysis results are embedded within the text using hyperlinks, pop-up menus, and multiple windows. This presentation of the text and analysis results collapses the act of re-reading and the acts of producing and analyzing data, while providing all the standard quantitative analysis tools (e.g., word lists, keyword occurrences, word frequencies and distribution, etc.). Such a tool is particularly relevant to literature instructors who wish to incorporate the WWW into their instruction, as it provides, at no cost, these quantitative tools in a form that can be easily integrated into a course website using a simple hyperlink. HyperPo's full feature list is geared toward French text analysis; however, many of the features work very well using English texts.

Quantitative text analysis should also be integrated with other literary analysis methods, as both its proponents and dissidents suggest. "In counting words as words only, one may easily overlook the fact that such words will have very different meanings and connotations in different literary works, or in the hands of different authors" (van Peer 303). To combat this type of shortsightedness, instructors should use

quantitative analysis in addition to or in relation to more qualitative examinations (e.g., the *reading* stage of analysis).

The benefits to instruction, thematic understanding of a text, and literary analysis are accompanied by the technical proficiency that such tools require and must be taught. Susan Hockey concludes her book *Electronic Texts in the Humanities* by identifying a critical shortage of these computer-based text analysis skills—and computer skills in general—among humanities undergraduate and graduate students (171). Providing an integrated text analysis tool using the web is an excellent step towards rectifying that shortage.

Student Web Pages

Computing humanists will sometimes have students in their literature and composition classes create web pages as part of the writing component of the course. This option is less popular than others described in this chapter, as it requires some expertise in HTML coding on the part of the students. Imparting this expertise not only requires an investment of class time to teach technical concepts, but also access to a computer lab with HTML editing software and a web server where student web pages can be hosted. With these resources in place, instructors will find that a web page building assignment "can motivate

students to explore the WWW and to find resources that interest them" (Katz 141). By taking time to demonstrate how to find and incorporate materials on the web, such an assignment "can also show students the connections that a course and its content have to the larger world of texts and ideas" (Katz 141).

Student web pages can also be used as a collaborative learning device, as student-created *web archives* can become class projects. At its most basic, a web archive is simply a resource of interconnected texts contributed by students in lieu of a traditional paper. Such a web archive could be loosely integrated based on the subject area of the course, or could be a more focused and inclusive project, such as that conducted by John Huntley, where his literature class created an annotated hypertext version of *Paradise Lost*. Huntley found that this project helped teach students collaborative writing skills and gave them a much fuller sense of the poem by repeatedly scrutinizing elements of the text and forced them to read more broadly about more issues than was traditionally the case (Katz 144).

The limits to the possibilities for student web pages are truly the limits of the instructor's and students' imaginations. Web pages also give students the opportunity to share their writing with other students and the world at large, a place to respond to class discussion or

assignment questions, or gather links to useful contextual material on the WWW.

Virtual Classrooms

The virtual classroom attempts to extend the WWW's collaborative effect in order to make the face-to-face meeting time unnecessary. This web-based tool is most commonly found in distance learning applications, though "all-in-one" packages are also used in classroom settings. For example, WebCT is currently available to University of Alberta instructors for use in classrooms, and provides all the functionality of a distance learning package: curriculum modules, schedule, assignment submission, grade reporting, etc. Generally speaking, however, virtual classroom web tools are created to provide collaborative learning opportunities to students and instructors by participating in "remote learning communities at times and places convenient to them" (Hiltz 348). Starr Roxanne Hiltz describes an implementation of the virtual classroom that is typical in that it attempts to duplicate or—in cases where it is used alongside regular face-to-face class meetings—enhance the traditional learning experience. Table 2.1 reproduces portions of a table listing the virtual classroom features alongside the "traditional" classroom features they replace (Hiltz 349):

Table 2.1 – Virtual Classroom Features vs. Traditional Classroom Features

Virtual Classroom	Functions	Traditional Classroom
Conferences	Class discussions & lectures	Classroom
Messages	Private student-student & student-teacher discussions	Office Hours; "Hallway" conversations; phone calls
Notebooks	Individual & work groups compositions	Paper, binders; word processor documents
Document read activity	Scan & read "published" material	Books & Journals
"Personal Electronic Information Exchange System"	Create, modify & share diagrams	Blackboards
Exam	Timed student-teacher feedback with no other communication permitted	Exam
Gradebook	Teacher records & changes grades and averages; student can access his/her grades	Gradebook

With some exceptions, such as the Exam and Gradebook features, the virtual classroom generally encompasses the web tools I have described above: message boards to facilitate class discussion and peer review, documents and links to course materials, and a "memory" of course information and "classroom" interactions.

Electronic Resource Sharing

In his article describing the successes and problems in using George Landow's hypertext environments *The Dickens Web* and *Middlemarch*, Jonathan Smith described a truly innovative approach to using the web as an instructional technology:

> Even so, one of the great potentials of hypertexts is that they can be added to and re-used. The material that my students added to *The Dickens Web* will be available to

> future classes. The web that they began for *Middlemarch* will provide information that next year's students can both use and augment. Alternatively, I can construct webs myself for this or other courses; if any of my colleagues are interested, we could develop webs for related classes, and then invite students to utilize the other class's web. The possibilities for integrating various courses—not merely within English but across disciplines and even across university lines—are limitless. (126)

Richard Lanham proposed a similar style of tool, admittedly before such a tool was feasible, to replace a traditional Freshman Composition Handbook—what he calls the "dreariest textbook of all" (161):

> Imagine instead an online program available to everyone who teaches, and everyone who takes the course. The apoplexy that comp handbooks always generate now finds more than marginal expression. Stupid examples are critiqued as such; better ones are found. Teachers contribute their experience on how the book works, or doesn't work, in action. The textbook, rather than fixed in an edition, is a continually changing, evolutionary document. It is fed by all the people who use it, and continually remade by them. (161-162)

Indeed, both of these articles are entirely about using technology to do things differently, pedagogically speaking. "The short-term approach—how do I keep on doing what I have been doing in the ways I have been doing it, but with much less money?—hasn't worked for the rest of American enterprise. Why should it work for us?" (163).

Resource sharing using the web is a very different enterprise, calling for new ways of thinking about teaching, both from the perspective of the instructors and the institution in which they teach.

Such a use of the web for electronic resource sharing would be a highly effective method of using the web as an instructional technology that is not simply duplicating or enhancing traditional pedagogical techniques. By drawing on the interactivity, associability, and immediacy of the web and using it to fulfill the hypertextual characteristics of malleability and modifiability, we can create a tool that will enable instructors to bring the process that makes academic research possible—specifically building on the work of others—into their teaching.

Like most of the web-based pedagogical tools I have discussed in this chapter, the development of online instructional resources requires a significant time investment; "anyone who has ever ventured into this area knows what a time sink the development and implementation of electronic instructional resources almost inevitably become" (Lougee 144). Instructors read about the great potential the web has in teaching their students and want to tap into this potential, but the time required to develop web tools and electronic course materials is completely overwhelming to all but those who are most dedicated to web-based

instructional technologies.[13] We are told that, "[a]s teaching tools, hypertext and hypermedia create a student-centered environment in which students become active participants in the construction of knowledge" (Smith 121). However, achieving this utopian classroom requires a great deal of effort and time, and "time so spent may not gain professional recognition" (Lougee 144).

Electronic resource sharing allows instructors to use the web in their classroom and provides a method to share instructional materials with each other, build on each other's work, and build up an instructional "library" for use in post-secondary classrooms. The work done by a single instructor will thus benefit many, and with each instructor contributing—not only to the "original" resources, but to revisions and expansions of resources that are themselves new resources—great benefits can be obtained. Fortunately, there are precedents in the literature.

A similar process to Jonathan Smith's use of student hypertext

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[13] "Today, one of the main ways of spending 'too much time' on teaching is to spend time designing and developing educational computer programs and exploring the use of such programs in the classroom context. For many who attempt to use the computer for education, the conflict between the desire to assist students in learning and the desire to promote oneself professionally is all too clear." (Robert J. Cavalier, qtd. in Lougee 146)

assignments as course material, noted in the previous chapter, is what George P. Landow calls "bootstrapping." Bootstrapping is a process of student-centered instruction that uses hypertext to create educational materials through student collaborative writing. Hypertext allows students and faculty to collaborate to create hypermedia archives because the de-centered organization allows new and old lexia to be interconnected, permits "the continual development of the materials students encounter and do[es] not demand that everything be set in advance" ("Bootstrapping" 198). This open structure allows for annotations to be added to the archive through hyperlinks.[14] The material in the hypertext system thus "remain[ed] unfinished, unfixed, and adaptable because the original author can easily modify his work and because others, including students, can add materials, including skeptical comments, by writing and then linking them to original author's materials" (198). Not only did bootstrapping result in a lower cost (195), it also produced material "more suited to student needs than did the original materials produced . . . by [a] talented group of graduate students who had not yet experienced working with

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[14]Though Landow is describing an implementation using Intermedia, this technology is available on the WWW using both client- and server-side scripting.

hypertext" (208). In asking students to take a more active role in shaping their education, Landow created collaborative hypertext archives for later courses on the same topic, and new courses on other topics. His role became one of editor, selecting student contributions to include in the archive and creating links between them. Landow found that the "student-created documents turned the student-author into a continuing virtual presence on the system with which later students interact" (209), and that "students in one course created materials for those in other ones" (209).

Here, Landow set up a system that preserved student contributions for later sections of a particular course and other courses altogether. By allowing students to build on and comment upon each other's work, he created an archive of material from which many courses could draw. This kind of electronic resource sharing is possible using the web. A WWW-based electronic resource sharing tool would allow instructors to build on each other's instructional material; such a tool that would allow students to build on is also an excellent idea. I will expand on my conception of this type of web-based collaboration in the following chapter.

Conclusion

In this chapter, I have examined a large number of WWW applications used in English Literature and Composition instruction. Each of these web tools offers many pedagogical benefits, and I have also attempted to describe some of the problems that an instructor may face in using this technology in his or her courses. In all cases, it must be stressed that one's "institutional context"—labs that are available during class time and the development and maintenance of these tools—contributes greatly to any successful pedagogical incorporation of the web (Winner 13). Significantly, if an integrated web-based solution was developed that would make it easy to use and integrate these tools into one's teaching, many, though not all, of the obstacles disappear.

The following chapter describes an "all-in-one" package that integrates the applications described in this chapter. This "ideal" site description is followed by a description of the literary computing website that I created for the Department of English at the University of Alberta that also attempted to bring the most common pedagogical web tools together. I will talk about the obstacles that prevented this site from becoming my ideal site, obstacles that will need to be overcome to create such an integrated web site.

Chapter 3

AN INTEGRATED LITERARY COMPUTING WEB SITE

In the introduction, I describe a pedagogical model based on "project work" that uses WWW technology or computing technology to enhance text analysis in the classroom. This stage of analysis comes after an initial reading, which led David Miall to refer to it as *re-reading* ("Rethinking" 52-3). This project work approach is the foundation for an "ideal" literary computing web site described in this chapter. This site integrates the teaching tools discussed in the previous chapter and both enhances traditional pedagogical tools and techniques and uses the web to do new and different things in the English Literature and Composition classroom. The site facilitates the use of web for research and course content by providing dynamic menu links to external sites, provides a method for students to host and edit their own web pages so instructors can encourage them to publish their writing and conduct peer review sessions, provides discussion tools for students and instructors to use during and after class, incorporates quantitative text analysis tools so instructors can introduce students to this type of analysis, and manages a centralized pool of teaching resources that instructors can contribute to, use, and enhance.

This vision has been profoundly influenced by my experience in developing a pedagogical web site for instructors of first-year English at the University of Alberta. After sharing my concept for an ideal site, I will describe the results I was able to achieve as a research assistant with the Department of English. By presenting my vision first, I am able to reflect on the difficulties that have prevented the English site so far from becoming a comprehensive implementation of the ideal site.[15] This will set up my concluding chapter, which will explore these difficulties, along with others mentioned in the previous chapters, and offer some suggestions to the computing humanist who attempts to implement an all-in-one literary computing web site.

Proposed Web site

The proposed site would function as a collection of teaching tools and instructional resources that instructors can use to build a course web site for use in-class and as a study resource. The two driving principles behind the site design are flexibility—allowing both experienced and inexperienced web users to build a site to their purposes—and resource sharing. Instructors may build their course site

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[15] By no means does this mean the English web site was a failure or inferior in any way. As I will discuss, many of these difficulties were due in part to a lack of time of the part of the developer.

from a simple form using a selection of styles and colours or may upload files to create a completely customized site. Teaching resources, such as annotated texts, images, articles, bibliographies, links, and documents, can be developed using tools provided on the site and shared among any number of courses through the use of a centralized resource pool. These resources can be selectively included in the instructor's course web site using a straightforward administration interface. The purpose of this resource pool is to encourage a spirit of academic collaboration in course instruction and to offer a continually expanding collection of educational materials. The web site will also feature tools to help instructors create course schedules, reading lists, assignments, and syllabi for their course sections. Each course section will have asynchronous and synchronous discussion tools, including a message board, chat area, and a discussion questions feature. Quantitative text analysis tools will also be integrated into the web site for students and instructors to use. Finally, an online graphical HTML editor will allow instructors and students to create and mount their own web pages. Each element of the site will be discussed in the following sections.

Site Structure

Each course section will have its own "root" web page where instructors may add links to course material, external sites, and course information. Courses which have multiple sections will have each section operating as a distinct entity, allowing instructors to use the resources they see fit and customize the course site to best integrate with their teaching. There will be a central course index page which points to the index pages of the various sections and a main index page will provide links to all course and section pages on the site. Instructors may add a syllabus, schedule, and other more formulaic material to his or her section web site. Each course section web site will be able to link to shared resources housed in the centralized resource pool.

To guarantee that none of this collaborative material disappears when course-specific materials are removed at the conclusion of courses, non-course-specific documents to be shared with other courses will be centrally housed on the site and will be incorporated into the course-specific web sites using hyperlinks. Thus, while a specific section will have its own web pages containing the course syllabus, assignments, and readings, study resources selected by the instructor will be available to the students through links from the course web site.

From the course index, the instructor can link to any or all of the

site areas, both shared and specific. The linked resources are chosen from the pool using a simple selection interface, and the instructor either uploads the course-specific information or enters it using web form input fields and an online web editor, described below. Thus, power users who want to "tweak" their site are provided with a means to create the site as they envision it, and instructors who are less experienced in designing web pages can easily make use of the tool in their classes.

Style Selection

The style selection feature of the site allows instructors to choose from a list of pre-made site designs with a selection of colour schemes. Instructors with a more advanced knowledge of web design can also construct styles using their preferred web editor and inserting special template tags to place dynamic information (links, syllabus, resources, etc.) The motivation behind this feature is to allow instructors of all computing backgrounds to customize their course website to the degree they wish. This would be accomplished by having scripts on the server parse style documents and replace the template tags with the appropriate information dynamically.

Course Documents

The envisioned site will allow instructors to upload a course syllabus, assignment descriptions, and a course schedule. Students will be able to consult the web site for this information, and instructors may take advantage of hypertextual features in these documents. For example, instructors could include images, video clips, or sound files in their syllabus, hyperlinks to contextual information or annotated texts in their assignments, and dynamically update the course schedule throughout the term. The schedule would allow instructors to include required readings, due dates, and relevant events (e.g., poetry readings, exhibits, etc.) together in one of three formats: a list grouped by entry type, a list of each class day with associated entries, or a calendar format for the term.

Discussion Tools

The envisioned site will feature both asynchronous and synchronous discussion features. Each course section on the web site will have its own discussion board, where instructors can create areas of discussion (sub-boards for particular topics) and discussion groups (small groups of students who discuss topics together before sharing their conclusions with the larger class group). This integrated message

board will be useful for extra-curricular discussion and collaboration, peer review, and a place for students to help each other with texts, assignments, etc.

Instructors will also be able to employ another type of asynchronous discussion in their course sections by using a discussion questions feature. This portion of the site will allow instructors to post questions for student discussion for particular topics or classes. Each student will respond to the questions online, and, once they have submitted their answer, will be able to review and comment upon other student answers as well. This permits a type of focused out-of-class discussion that can better prepare students for in-class discussion.

The WWW site will also allow students and instructors to "chat" with each other in real-time. This feature will improve on existing synchronous discussion tools by allowing instructors to create multiple and parallel topics for real-time discussion. Thus, an instructor can create "boxes" where students can respond to focused discussion, rather than attempting to carry on multiple conversations in a single window. This will be accomplished using internal (or embedded) frames in the browser window, one for each topic. Students can then follow the train of thought for each discussion separately, and respond to the discussions individually.

Text Analysis Tools

My ideal literary computing web site would include extensive web-based quantitative text analysis tools. As discussed in the previous chapter, these tools can provide many benefits to instructors and to student explorations of a particular text. However, this feature is far easier to talk about than implement. David Miall expresses the need for richer and more integrated web-based text analysis tools in this way:

> We stand in need of more effective and more varied means of text analysis that will undertake not only collocation analysis (with built-in significance testing) but also such features as multivariate analysis of selected collocate groupings; graphing of selected word frequencies; dictionary- and thesaurus-controlled searching, including lemmatization; comparison of word distribution in a given text against a standard corpus; online content markup; pattern matching across texts; and analysis of sound frequencies based on phonetic transliteration. In addition, the methods should be applicable to texts on the Internet, once they have been suitably encoded ("Library" 1411).

As was mentioned, Stefan Sinclair's work on HyperPo, a French text analysis tool on the WWW, and the TAPOR initiative will lay the foundation for the creation of such a tool. However, to this point, English instructors must be content to link to HyperPo from their course web site and provide students with some instruction about its features and possibilities.

Student Web Pages

My envisioned site will provide web space for students to use for assignments, hypertext writing, and presentations. Administration of this web space will be conducted using a web browser rather than allowing students to use protocols such as File Transfer Protocol (FTP), Secure Shell (SSH), or Telnet. This restriction to web-based file management has two motivations. First, it prevents students from accidentally or maliciously "cracking" into areas where sensitive information can be viewed or where the web site scripts can be manipulated or erased. Second, a web-based graphical user interface will allow more novice users to manage their files, edit documents, and so on, without needing to learn new protocols. This web-based file manager would permit students to upload files, create directories, rename or move files, and edit HTML documents using an online What You See Is What You Get (WYSIWYG) web editor. This last feature is one of the most important, and also problematic, as Mauriello, Pagnucci, and Winner have attested in their investigation into how composition instructors use the WWW in their classes.

In their survey of composition classrooms using the web, they found that WYSIWYG web editing provided the maximum benefits of allowing students to focus on the process of writing, rather than on the

process of HTML coding (414). Instructors also found that class time that they had previously spent teaching students to use HTML could now be used to teach composition. However, there was a major problem associated with using WYSIWYG editors: students had to have access to the server so that they could upload their files using FTP or a similar protocol, a process that instructors unanimously found to be difficult (415). This is also much less secure, and therefore often unavailable to instructors at institutions worried about "crackers." By requiring students to upload their pages, instructors also discouraged the revision process, since "if a page on the Web needs to be edited or revised, that page has to be retransferred, reconverted, and then rewritten. Naturally, this makes students very reluctant to edit their work" (415).

To overcome these problems, the envisioned site would provide a WYSIWYG web editor online. This would mean that students could edit the files on their web space directly, making revision much easier and security much better. Thus, the envisioned site would capitalize on the effectiveness of WYSIWYG web editors while mitigating the major complications that accompany them.

Centralized Resource Pool

The resource pool on the website would be separate from the course-specific pages and instructional tools described above. Instructors will be able to search and browse through the available resources by category, period, and keyword. When an instructor creates or uploads a resource, they will fill out a short web form that will classify the resource, give some keywords, and provide a short description of the resource. This would ensure the resource pool remains useful as it grows and that instructors can easily find resources to use in their classes.

Separating the course-specific information—such as assignments, syllabi, reading schedule, and so on—from the shared resources has several benefits:

- *Longevity of the data:* Separating the shared resources from the specific course pages ensures that instructional resources are not deleted when a course section is finished.
- *Avoids rework:* Preserving the instructional resources ensures that these resources do not have to be re-entered or redone. Plus, instructors can build on each other's work independently of course sites.
- *Quick setup:* By simply linking the course materials to the course website, incorporating the materials is quick and easy. By contrast, having to upload or enter this material for each course

site would take a great deal of time and effort.

- *Consistency:* By having all course websites linking to the same course "objects"—I use this term deliberately to evoke the notion of the object pointer from object-oriented programming[16]—it ensures that each class sees the same course resource. Additionally, by having the course material stored independently of course websites, the style chosen for a particular course website can be applied to the resource, rather than having it statically associated with one particular style.
- *Shared accessibility:* This last benefit is especially important, as it will allow guest lecturers, instructors, and students preparing seminar presentations to access the resource pool with a simple hyperlink, whether or not they are linked from within a course page.

Instructors will contribute their data to this resource pool through a simple upload feature—in the case of images and sound files—or a form—in the case of more structured resources such as bibliographies and links. These resources would then be accessible to other instructors to use within their sites as well as to edit or modify, thereby creating a new resource. That is, if Instructor A creates a contextual document on a given subject that covers only a specific

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[16]Object-oriented programming uses "pointers"—references to memory addresses where objects are stored—to ensure that multiple object references all point to the same object instance.

period, Instructor B can use this document as the basis for another that expands the era for this subject, vice versa, adds an image, or simply expands on a particular point. If Instructor C wants to use Instructor A's document or Instructor B's document, he or she can simply select either of them from a list in the administration area and the selected document will be integrated into their course web site.

Developing Teaching Resources

As my subject area is English Literature and Composition, the proposed resource development tools provided on the envisioned site are tailored to classes in that subject. The tools provided on the site would allow instructors quickly to create a course resource—such as a bibliography or hyperlink—using a web form. Hypertext documents would be uploaded or constructed using the online WYSIWYG web editor. Images, sound files, and video clips would be uploaded and categorized using a web form. Through a simple frame-based interface, instructors could also create hyperlinks between resources in the centralized resource pool by selecting the link text and choosing a resource to which to link.

Any other instructor using these same tools, with the exception

of sound and video files, could then modify each resource. [17] For example, if an instructor finds a hypertext document in the resource pool that they would like to expand, they could select that resource from the pool and edit it using the online web editor. When the instructor saves the resource, it is saved as a *new* resource, but maintains an authorial history. Thus, a resource posted by an instructor remains in the pool in its original state, despite modifications by other instructors.

This setup takes advantage of hypertext's dynamic and readerly quality, allowing the reader to become an author by changing the resource. In addition, it would be a small matter to establish a trace to create usage profiles for each resource covering who has embellished a particular resource and how many times, how many times a particular resource is viewed or linked to, and so on. This would be very valuable in establishing some kind of recognition of value for instructional materials at the post-secondary level which could conceivably be used in promotion and ranking decisions. This is a point I will develop more fully in the final chapter.

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[17] Due to the size and complexity of these files, online editors either do not exist or are not practical at this time.

Administration

This site is to be fully dynamic, which means that instructors must have access to an administration area to make changes to their course web site. The administration area will allow instructors to upload resources; upload course pages (in the case of power users) and course notes; add or remove resources from their site; add their course syllabus, assignments, and reading schedule; change their site style and layout; and preview resources in the pool. The structure of the site will ensure that no *site* administration need occur, in that instructors will be able easily to create, modify, and delete their course-specific pages, and resources will be persistently available to all courses. An automated "clean-up" script could handle routine backups and occasional instructor deletion after an extended absence from the site.

Many, though not all, of these ideas were implemented in a literary computing web site I developed at the University of Alberta. The description of this site and its features follows.

Literary Computing Web site at the University of Alberta

In September 2001, I was given a research assistant position with the computing committee of the Department of English at the University of Alberta. My mandate was to create a literary computing

website to be used in first-year English courses as part of their humanities computing initiative to incorporate computing and web technology into the classroom. The site was to be a computer-assisted instruction tool that would be used by instructors and students during class time and be a useful resource to students outside of class as well. The committee wanted instructors to be able to use it easily to create web sites for their courses and to give their students a forum to create web pages of their own. At its outset, I met with representatives from the computing committee to develop some guiding principles to assist me in designing and implementing the site. These guiding principles grew out of the goals that the committee wanted the literary computing web site to achieve.

Site Goals

The literary computing web site project grew out of a desire to meet the committee's goals for computing in the Department of English, as outlined in the "Computing in English" report developed in 2001 (Miall, "Computing in English").

1. *To "mainstream" humanities computing in the English curriculum.* The committee felt that most first-year (not to mention second-, third-, and fourth-year) students would not be exposed to humanities computing as an option to consider in

their academic work and that this web site would provide not only an example of this kind of work but also some impetus to discuss it in class. This web site was part of their thrust to explore and evaluate computing tools for writing in first-year courses.

2. *To access common pedagogical web tools in one place.* The committee wanted as many of the common computing tools used in (especially first-year) English classes as possible to be available through the site. The committee's motivation behind this goal was twofold: a) the site should be as useful as possible, and b) no instructor's interest should fail to be piqued due to a missing feature.
3. *To develop a computing expectation in humanities students.* The committee felt that the availability and use of this site would foster an expectation among students, starting in their first year, that computers and the web could and would be used in English and humanities classes.

To achieve these goals, the committee and I formulated the following guiding principles to help me make development decisions as I coded the site.

1. *Accommodate all levels of computer literacy.* Because the levels of computing knowledge and experience among instructors in the department varies so widely, the site needed to accommodate the novices, power users, and everyone in-between.

2. *Instructors can use as much or as little as they like.* The site needed to be modular, in the sense that instructors could use only the features they wished to. Instructors who simply want to place their syllabus online so students who have lost theirs can access it and instructors who want a full-featured pedagogical tool needed to be seamlessly accommodated.

3. *Easy maintenance.* There was a worry that maintaining the site would overburden the administrative staff of the department. To meet this design principle, instructor and student signup features were written so that the site administrator did not have to enter each user into the site and each instructor did not have to add their students to the site. In both cases, a password is required to use the signup page—this allows the webmaster to simply tell a new instructor the password, and for instructors to distribute a password to their students to allow them to signup.

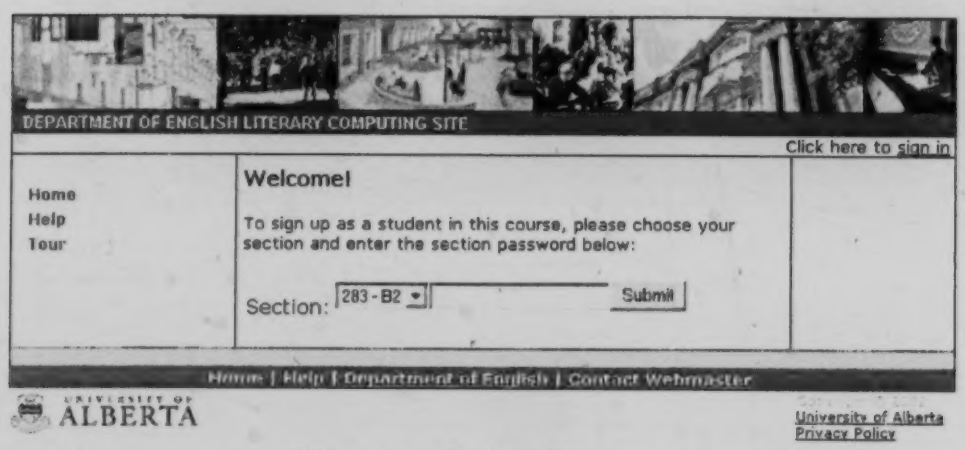
DEPARTMENT OF ENGLISH LITERARY COMPUTING SITE
Click here to sign in
Home
Help
Tour
Welcome!
To sign up as a student in this course, please choose your section and enter the section password below:
Section:
283 - B2
Submit
Home | Help | Department of English | Contact Webmaster
UNIVERSITY OF ALBERTA
University of Alberta Privacy Policy

Figure 3.1 – Student Signup

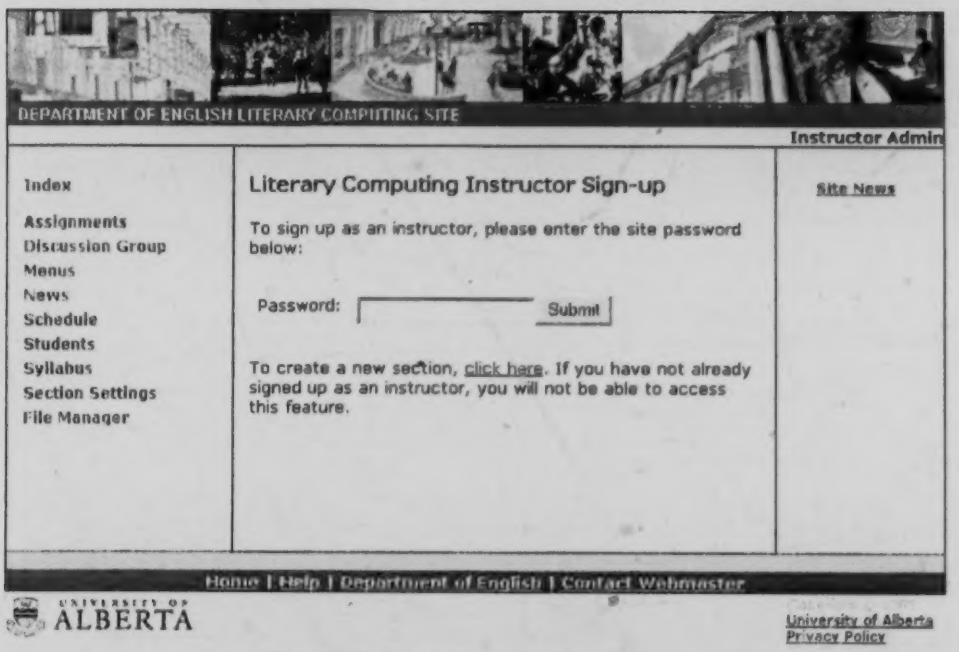
DEPARTMENT OF ENGLISH LITERARY COMPUTING SITE
Instructor Admin
Index
Assignments
Discussion Group
Menus
News
Schedule
Students
Syllabus
Section Settings
File Manager
Literary Computing Instructor Sign-up
To sign up as an instructor, please enter the site password below:
Password:
Submit
To create a new section, click here. If you have not already signed up as an instructor, you will not be able to access this feature.
Site News
Home | Help | Department of English | Contact Webmaster
UNIVERSITY OF ALBERTA
University of Alberta Privacy Policy

Figure 3.2 – Instructor Signup

4. *An understandable and clean design.* This was especially important in designing the administration pages for the site, as the limitations of the web as compared to a compiled, stand-alone program often required a creative interface solution in order to function; I had to evaluate constantly the ease of use and clarity of the pages I was designing in addition to ensuring they functioned properly.

Based on these principles, I developed a web site that would bring together as many of the pedagogical WWW tools I discussed in the previous chapter and present it as an all-in-one package with a cohesive interface. I encountered difficulties along with successes during development. I will share both in the remainder of this chapter

and I will conclude with a reflection on the differences between the ideal site I envisioned and the site I was able to create for the Department of English.

Site Features

The document that the Department of English literary computing web site was based upon outlined some of the features that the computing committee wanted to see used in English computing courses (Miall, "Computing in English"). The committee wanted the literary computing web site to provide templates for instructors who lack the technical skill or the time to create a course web page on their own. These templates would provide input fields for standard content, such as course schedule, readings, links, handouts, grades, regulations, etc. Part of this template structure was a feature that would allow instructors to provide word processor documents that would automatically be translated into HTML encoded text for the site. In addition to the instructor web pages, the site was to boast some form of shared web resource hosting for first-year courses so instructors could upload course modules that other instructors could use in their teaching. The site was also to have web-based writing resources that would guide students on how best to write HTML pages and provide

web authoring tools that would permit them to mount a basic web site on which to host their assignments and projects. These projects could be individual or collective efforts. The site would feature both asynchronous and synchronous discussion tools for students to use both in and outside of class. Finally, the site would host web-compliant text analysis tools, including a concordance builder, the ability to graph textual patterns, pattern matching and searching, and dictionary and thesaurus lookup features.

The developed web site was created with PHP, a general-purpose server-side scripting language especially suited to web development, which can be embedded in HTML pages. It is the most popular Apache module currently in use, and is running on 10,197,643 domains at the time of this writing (PHP Group). The PHP code generates HTML code on the fly based on the information stored in an open source database backend hosted on the server, MySQL. By querying the database, the PHP code retrieves course materials—such as the syllabus, assignments, schedule, and so on—user information—e-mail address, name, etc.—and generates menus appropriate to the user and their course. Javascript was also used to provide the menu features and some aesthetic functionality in the administration sections. The site was under development and testing from September 2001 to December

2002, with one programmer (me) working an average of twelve hours per week.

The site is structured by course and section, with each section having its own branch off of the root directory. Each course has a number of sections associated with it. For example, the ENGL 101 course has a section D1 in the example below. Because each section, for the purposes of the web site, operates independently of its course, the section is taken as the main unit. The administration features are accessible to instructors and site administrators through a subdirectory from the root as well. Help pages for individual pages and individual features are available from the side menu.

Administration

The web site has two layers of administration: one for instructors, and one for the site administrator or webmaster. The site administrator, or webmaster, is responsible for adding new courses to the website, removing instructors, and changing site settings. To add a new course, the webmaster simply enters the course number into a form field and clicks the submit button. To remove an instructor, the webmaster selects the instructor from a list and clicks the delete button. The site settings are set during installation, and rarely need to be modified.

They include the webmaster login name and password, the instructor signup password (mentioned above), the webmaster's e-mail address, and directory information about the server which hosts the site. The webmaster can add, modify, and delete all user and section information on the site as well, but the administration of users and section information is primarily the responsibility of the instructor.

The instructor administration portion of the site allows instructors to add assignments, create discussion groups, add menus and links to their course pages, create a class schedule, mount a syllabus, administer student users, create a section and change section information, and create web pages. Instructors create course sections and add the above information to them through straightforward web forms.

An obstacle that came up late in the development stage was a server-related issue: the server on which the site was hosted ran out of space. Though this was due to one of the server users storing gigabytes of information on the server, it brought a potential problem to the fore—our site running out of space. This was an especially real concern as users and course sections needed to be removed manually by an instructor or administrator respectively. If this was forgotten or overlooked, the site could become colossal after only a handful of

semesters. As a response to this problem, I created a clean-up feature that automatically removes old users—instructors and students who had not logged into the site in a certain number of months—and sections—which had been finished for 2 months—from the website.

Syllabus, Assignments, and Schedule

A significant benefit to using the web in the classroom is that it can provide a style of course memory, preserving information distributed through handouts such as the course syllabus, assignments, and reading schedule. However, unlike these paper handouts, putting course documentation on the web allows it to be changed as the course progresses. Instructors are responsible for the cost of photocopying in the Department of English at the University of Alberta, so providing a means easily to mount course information and handouts on the web has an immediate benefit. By logging into the website, students can see the course syllabus, assignment descriptions, and upcoming events or readings on the section schedule.

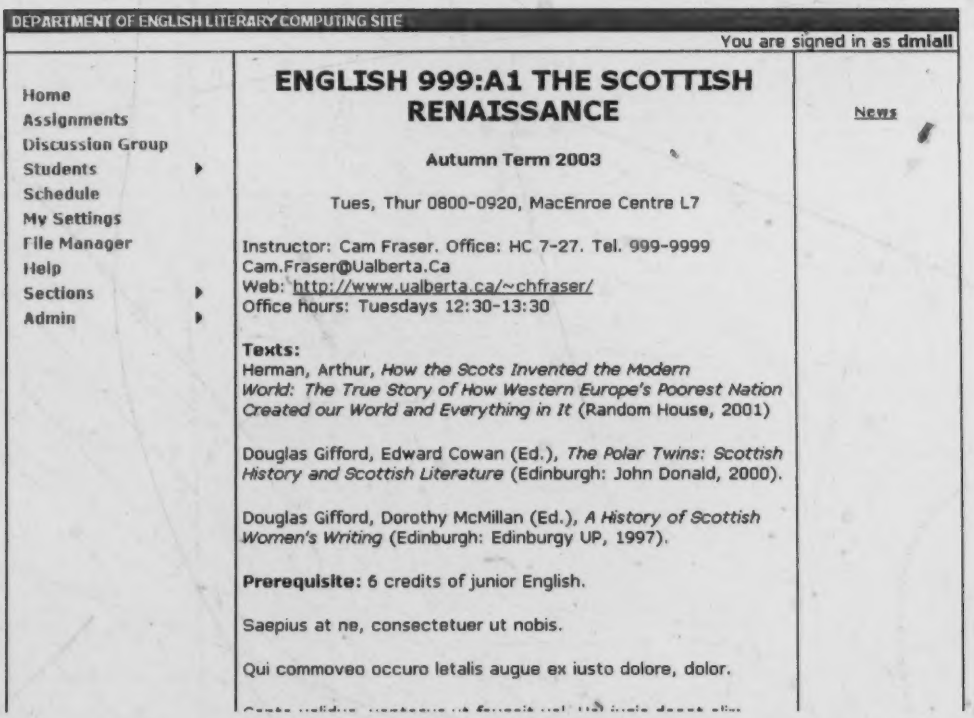
DEPARTMENT OF ENGLISH LITERARY COMPUTING SITE
You are signed in as dmlall
Home
Assignments
Discussion Group
Students
Schedule
My Settings
File Manager
Help
Sections
Admin
ENGLISH 999:A1 THE SCOTTISH RENAISSANCE
Autumn Term 2003
Tues, Thur 0800-0920, MacEnroe Centre L7
Instructor: Cam Fraser. Office: HC 7-27. Tel. 999-9999
Cam.Fraser@Ualberta.Ca
Web: http://www.ualberta.ca/~chfraser/
Office hours: Tuesdays 12:30-13:30
Texts:
Herman, Arthur, How the Scots Invented the Modern World: The True Story of How Western Europe's Poorest Nation Created our World and Everything in It (Random House, 2001)
Douglas Gifford, Edward Cowan (Ed.), The Polar Twins: Scottish History and Scottish Literature (Edinburgh: John Donald, 2000).
Douglas Gifford, Dorothy McMillan (Ed.), A History of Scottish Women's Writing (Edinburgh: Edinburgy UP, 1997).
Prerequisite: 6 credits of junior English.
Saepius at ne, consectetuer ut nobis.
Qui commoveo occuro letalis augue ex iusto dolore, dolor.
News

Figure 3.3 – An example syllabus

The syllabus is displayed on the section homepage. Because the syllabus is presented in hypertext, instructors can incorporate images, multimedia, and hyperlinks to other pages into their syllabus. For example, if a course text is available online, clicking the title could take the student to the text. In the case of incorporating images, as Twycross (1999) notes, providing full color images through the web is a vast improvement over greyscale photocopies.

Instructors mount their syllabus using one of two methods in the syllabus administration page: if they have created a syllabus in HTML

encoding using a web page editor, such as Microsoft FrontPage or Macromedia Dreamweaver, they can simply upload that file; or they can use a provided online WYSIWYG web editor either a) to enter and format their syllabus, or b) to copy their syllabus from their word processor and paste it into the web editor. This, as mentioned, was a key element to the computing committee's vision for the site. The features of the online web editor will be described later in this chapter.

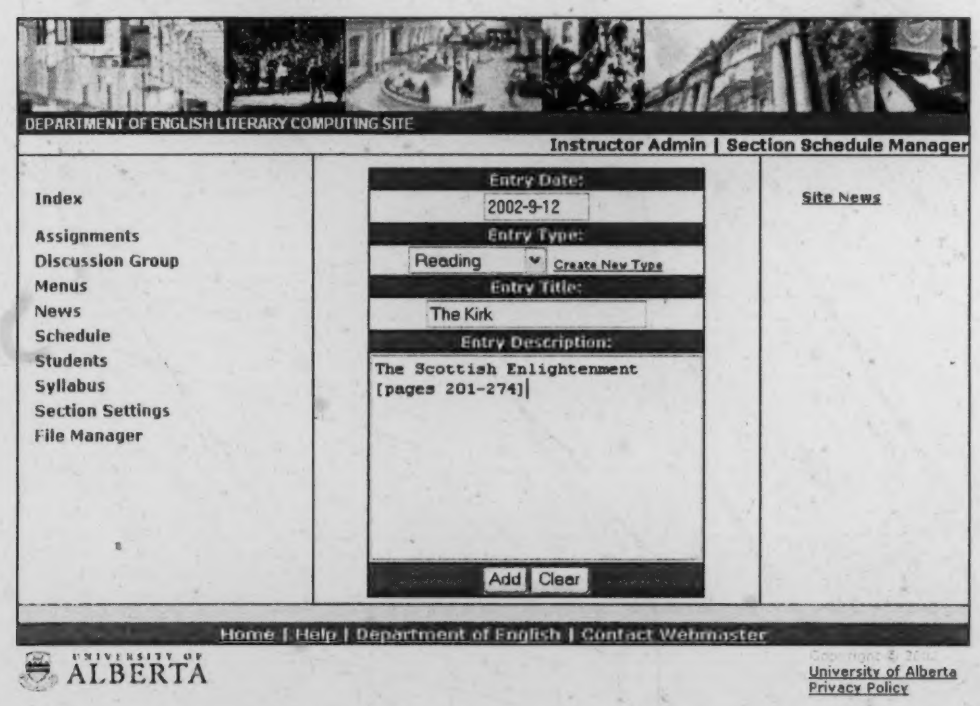

Figure 3.4 – Adding an entry to the schedule

It is just as straightforward for instructors to add assignment descriptions to their class web site. Assignments can be viewed by students by clicking on the "Assignments" menu on the course pages

and can use hyperlinks, images, and HTML tags. Assignments are entered through the assignment administration page. Using a web form, instructors enter the title for the assignment, which will be used on the navigation menu and course schedule, and the assignment due date. The assignment itself is entered using the online web editor, which makes it easy to incorporate hyperlinks and images into the description. Once entered, assignments can be modified and deleted, and automatically show up on the section schedule on the due date.

The section schedule is a valuable visual tool for both instructors and students, as it is presented in the form of a calendar. A common problem for instructors creating their course schedule is forgetting holidays and losing track of which dates line up with their schedule classes. By presenting the class schedule—both to the student and in the administration interface—as a calendar, these problems are avoided. Holidays and school breaks are automatically inserted in the schedule and the proper start and end days are indicated on the calendar. Instructor can enter schedule "entries" from a variety of types (reading, due date, event, guest lecture, etc.[18]), which are indicated using different colours on the calendar, by clicking the date and entering a title and

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[18] Instructors can also add new schedule entry types.

description in a web form. The title will then be displayed in the box for that date, and pointing the mouse over the title will display the description. Students can also have a text list displayed of all schedule entries of a given type by clicking a hyperlink at the top of the page. For example, this feature allows instructors to copy the reading schedule into their word processor.

September						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10 Scottish Enlightenment	11	12 The Kirk	13	14
15	16	17 Euphemia Council	18	19 Adam Smith	20	21
22	23	24 Education	25	26 Robert Burns	27	28
29	30					

Figure 3.5 – The section schedule

A significant problem will face any researcher attempting to make a more general version of the schedule tool: each institution has different holidays and semester lengths. As it was, I had to make repeated inquiries with the registrar's office and timetablers at the University of Alberta as I received conflicting dates. Of course, requiring a user to specify the dates would solve this problem, but

would require an extra degree of administration.

These features provide a "memory" for a course and a single place where students can go to find course information.

Menus and Links

Each course website has navigation menu links to each web tool—Home, Assignments, Discussion Board, Discussion Questions, Student Profiles, Schedule, User Settings, File Manager, Help—and new menus and submenus can be added by the instructor on the Menu administration page. Several of the default menus have dynamic submenus, including the Assignments menu, which has a submenu for each assignment that has been entered by the instructor, and the Student Profiles menu, which has a submenu for each student who has signed up for the section.

Instructors add hyperlinks to their website by organizing them into cascading menus, as shown in Figure 3.6. Hyperlinks can be to course materials, useful online resources, or to documents the instructor has uploaded to or created on the literary computing website. Each menu link has a title, which is displayed on the menu, a URL associated with it, and a Parent Menu (see Figure 3.7).

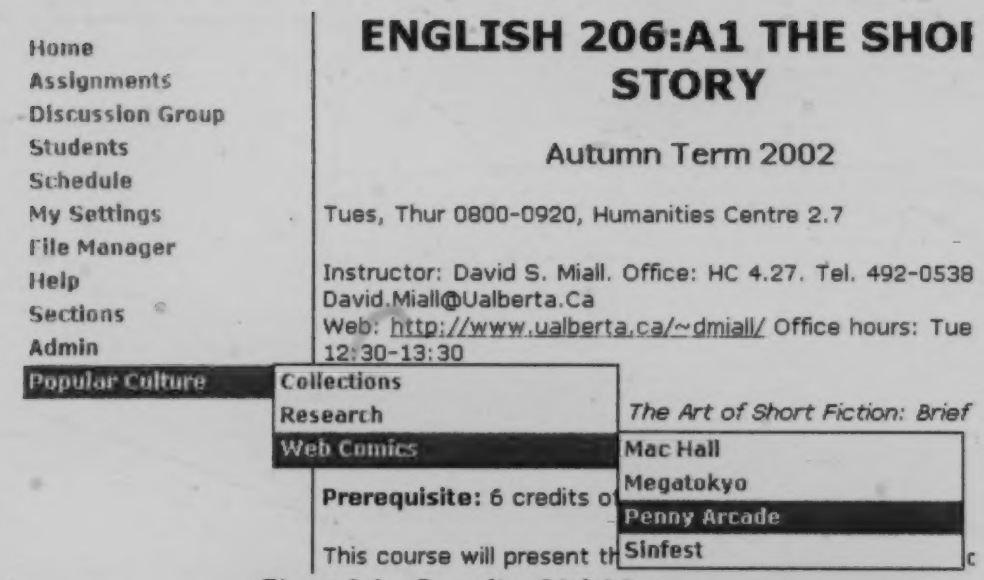

Figure 3.6 – Cascading Link Menus

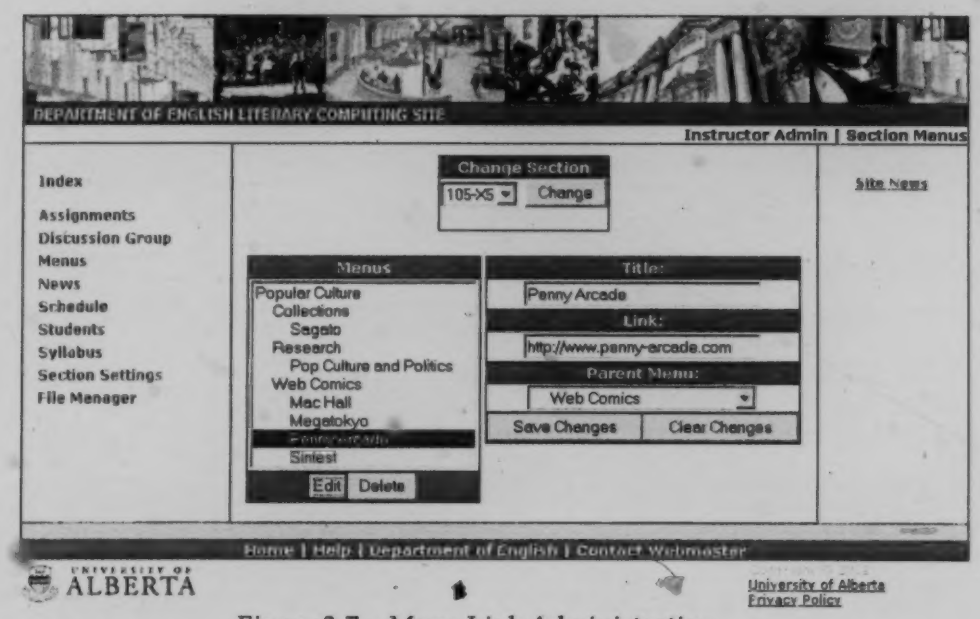

Figure 3.7 – Menu Link Administration

The Parent Menu is the menu of which the link is a submenu. The Parent Menu can be any menu link, or it can be "None (root)," which indicates that the menu link should appear as one of the base

navigation menus. Menu links can thus be easily re-arranged hierarchically.

This implementation was the second version of the menu tool. In the first version, instructors could add menu categories and then one level of submenus. This system was far easier for computer novices to understand immediately, but was very inflexible. However, in conducting tutorials with instructors on how to use the site, I found that this modular menu concept was readily understood once explained.

Discussion Questions & Discussion Board

The literary computing website includes two discussion tools: a Discussion Board feature and a discussion questions feature. These tools provide the pedagogical opportunities for online and web-based discussion as described by Patrick Sullivan:

> A teacher might choose to post questions, comments, or ideas about a particular reading or issue and then invite comments from her students and direct the conversation very much the way she might in a traditional classroom, only in this case doing it online. A teacher might ask students to work online in small groups to discuss a particular reading or issue and then collaborate on writing a "position statement" to be shared and discussed with the whole class online. (395)

The discussion questions feature allows instructors to enter questions for discussion that students respond to. Once students have

responded to a question, they are able to see the responses their classmates have given to the questions. Students can then respond to each other's answers.

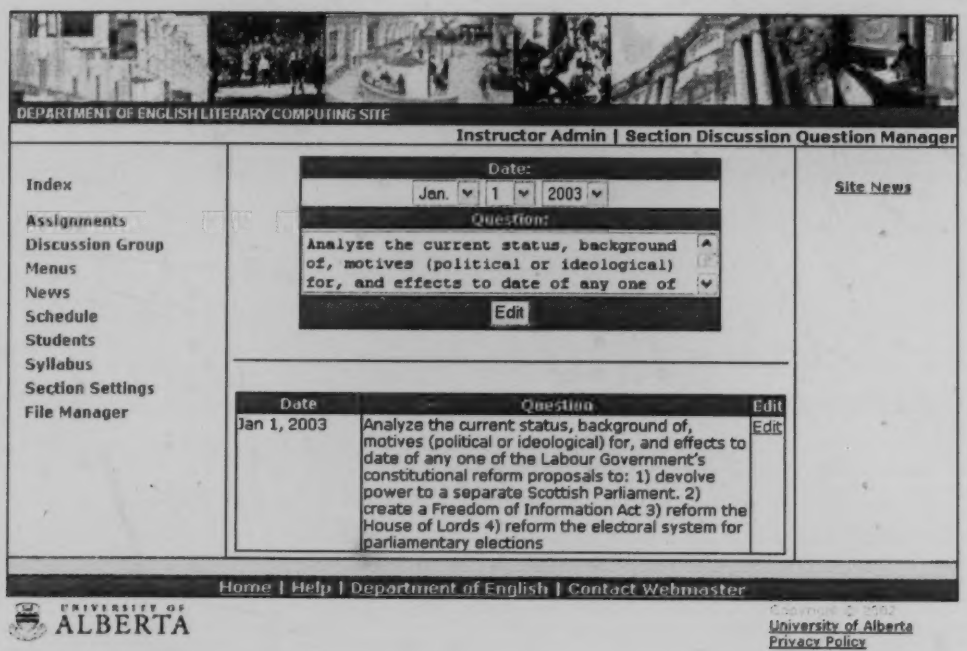
DEPARTMENT OF ENGLISH LITERARY COMPUTING SITE
Instructor Admin | Section Discussion Question Manager
Index
Assignments
Discussion Group
Menus
News
Schedule
Students
Syllabus
Section Settings
File Manager
Date:
Jan. 1 2003
Question:
Analyze the current status, background of, motives (political or ideological) for, and effects to date of any one of
Edit
Site News
Date
Question
Edit
Jan 1, 2003
Analyze the current status, background of, motives (political or ideological) for, and effects to date of any one of the Labour Government's constitutional reform proposals to: 1) devolve power to a separate Scottish Parliament. 2) create a Freedom of Information Act 3) reform the House of Lords 4) reform the electoral system for parliamentary elections
Edit
Home | Help | Department of English | Contact Webmaster
UNIVERSITY OF ALBERTA
University of Alberta
Privacy Policy

Figure 3.8 – Discussion Questions Administration

Instructors add and edit new questions using the discussion questions administration page. Existing questions can be edited from a list, and new questions can be added and associated with a date using a web form.

The discussion questions feature was a response to how one of the initial test instructors used the "course news" feature: she added discussion questions as news postings and asked students to respond

via e-mail. This was a less-than-ideal method, as students were not able to see each other's responses, which turned the answers into assignments rather than discussions. Using this tool, students will be able to respond to each other's answers online or in class.

The Discussion Board tool is a messaging board that allows students and instructors to carry out asynchronous discussion, contribute hyperlinks, and post assignments. Instructors can set up discussion groups within the Discussion Board and assign students to each group. Each group is then assigned a permissions profile; that is, whether only member students can view messages posted in a particular group, whether all students can view posts, but only member students can make posts, and so on. For example, if an instructor wanted to have small groups of students discuss a particular topic amongst themselves, then have one member of the group post a summary of their conclusions to the main discussion area, he or she could create a number of small discussion groups (e.g., Group #1, Group #2, Group #3, etc.), divide students into the groups, and set the permissions to *Only Member Students can View and Post.* The instructor would then make a "Main" discussion group to which all students belonged and would direct her students to discuss the topic in their groups and then post a summary to the main group. Another useful

example is a composition instructor who creates a "Writing" group where students post their work and other students post peer reviews of their work. In larger classes, the two examples could be melded such that a number of smaller writing groups are created on the discussion board to give students a smaller number of people to whom to respond (this would also make more reserved students more comfortable sharing their work).

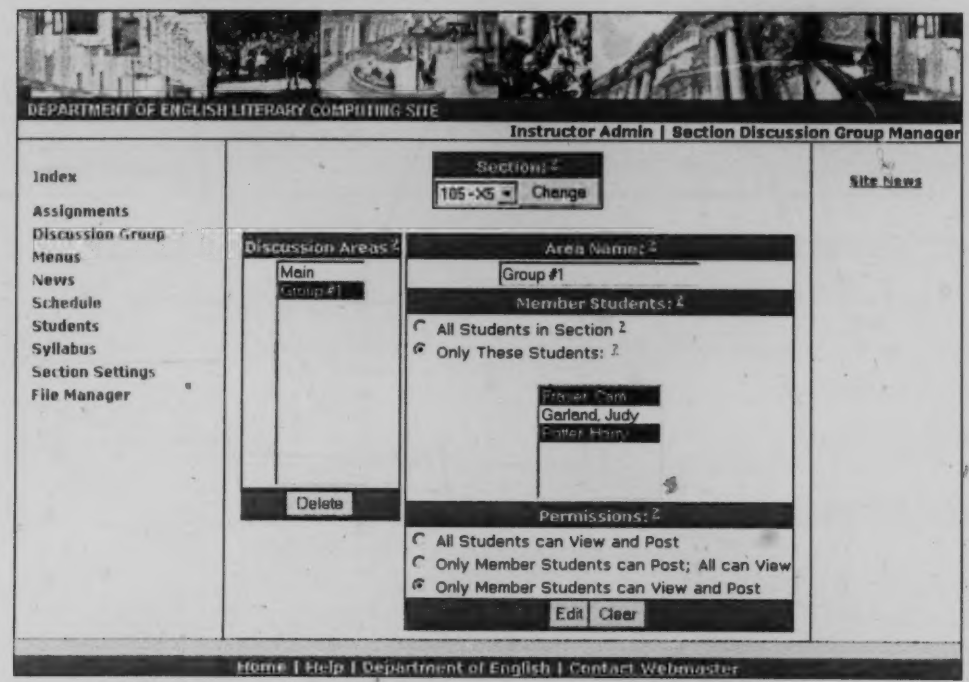

Figure 3.9 – The Discussion Board Administration Feature

The Discussion Board thus allows instructors and students the option of extra-curricular discussion, in-class asynchronous discussion, and a means easily to post student material, links to online resources,

and student writing exercises.

A synchronous chat feature was not made part of the literary computing web site as it was low on the computing committee's priority list in relation to other features, and implementing and integrating such a feature would be difficult, but I would recommend that this feature be added as a future embellishment.

File Manager

All students and instructors on the web site have a directory where they can upload assignments, personal web pages, and practice HTML coding. The literary computing website provides a web-based file manager that allows a user to edit, rename, copy, move, and delete files, create a directory, create an HTML file, and upload a file. HTML pages can be edited using an online WYSIWYG web editor (described in the following section), and changes are immediately updated to the student or instructor's web space. This allows students and instructors easily to mount web pages or assignments and creates a website using web-based tools in a graphical browser.

Current Directory: root

[Create New Directory | Create HTML file | Upload a File]

Filename	Type	Size	Last Modified	Commands				
images	Directory	512 bytes	21/08/2002 11:29 am	Edit	Rename	Copy	Move	Delete
index.html	Hypertext File	0 bytes	30/06/2003 04:23 pm	Edit	Rename	Copy	Move	Delete
scottish-kirk.html	Hypertext File	0 bytes	30/06/2003 04:23 pm	Edit	Rename	Copy	Move	Delete
smith.html	Hypertext File	0 bytes	30/06/2003 04:25 pm	Edit	Rename	Copy	Move	Delete
time.html	Hypertext File	11448 bytes	21/08/2002 10:53 am	Edit	Rename	Copy	Move	Delete
timeline	Directory	512 bytes	30/06/2003 04:25 pm	Edit	Rename	Copy	Move	Delete

[Create New Directory | Create HTML file | Upload a File]

timeline Successfully Created

Figure 3.10 – The web-based file manager

On-line web editing

The literary computing website features a WYSIWYG web editor that users can use in their graphical, DHTML-capable browser[19] to create and edit HTML documents. It is accessible for students from the File Manager tool to allow them to create web pages for their web space on the site. It is accessible for instructors from the File Manager, but it is also employed in the assignment and syllabus administration pages to allow instructors easily to incorporate HTML tagging into their course website.

[19] Internet Explorer™, for example.

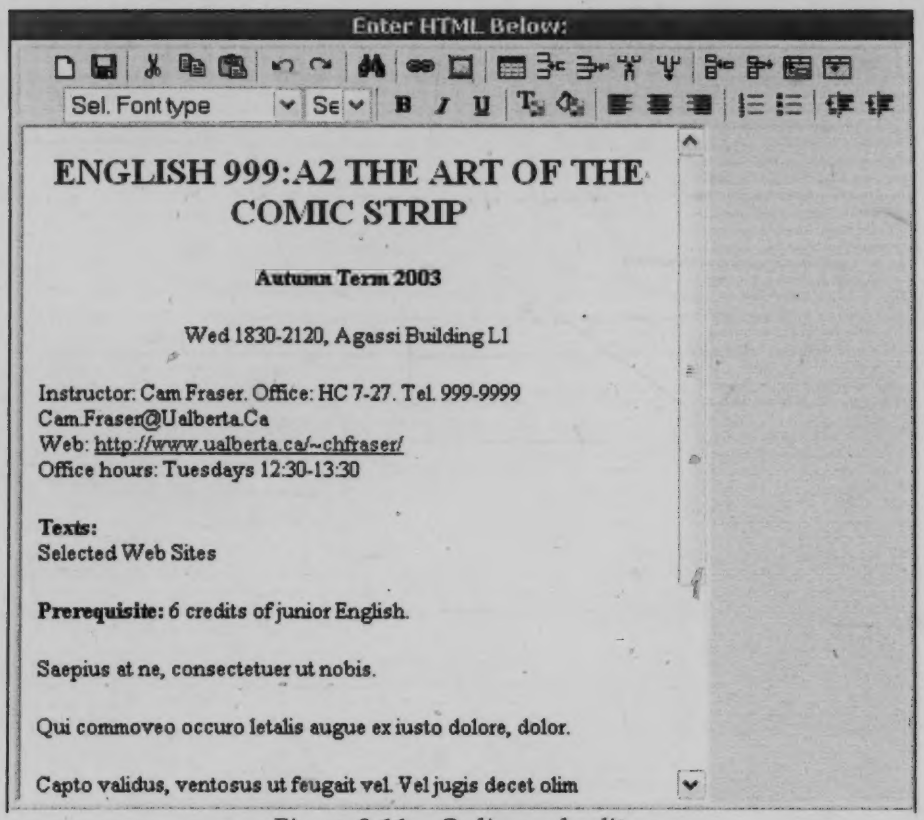
Enter HTML Below:
Sel. Font type
ENGLISH 999:A2 THE ART OF THE COMIC STRIP
Autumn Term 2003
Wed 1830-2120, Agassi Building L1
Instructor: Cam Fraser. Office: HC 7-27. Tel. 999-9999
Cam.Fraser@Ualberta.Ca
Web: http://www.ualberta.ca/~chfraser/
Office hours: Tuesdays 12:30-13:30
Texts:
Selected Web Sites
Prerequisite: 6 credits of junior English.
Saepius at ne, consectetuer ut nobis.
Qui commoveo occuro letalis augue ex iusto dolore, dolor.
Capto validus, ventosus ut feugait vel. Vel jugis decet olim

Figure 3.11 – Online web editor

The tool was designed by researchers at the Universitat Internacional de Catalunya based on work started by Dr. Fernando Álvarez (Fernandez 2001). It uses DHTML capabilities in the web browser to create a web editor similar to Microsoft FrontPage or Macromedia Dreamweaver. The web editor also allows students and instructors to copy formatted text from their OLE DB-based (i.e., Microsoft Windows-based) word processor and paste it directly into the web editor. The text will be properly converted to HTML format. This

fulfilled one of the requirements for the site specified by the computing committee.

Conclusion

A major concern of members of the computing committee were the issues of security—to whit, having control over who may view the course material the instructor places on the web—and how to reward or encourage instructors to invest time in developing web-based instructional material. The latter is an institutional concern that will be discussed in the final chapter. The former was overcome by allowing instructors to set permissions on each area of the course web site: instructors could specify that only students in their sections could view material, all sections of a particular course, all registered site users, or the entire world (no permissions). This gave instructors a great deal of control over their course material. This was a response to one of the major obstacles to web-based pedagogy that will be discussed in the final chapter: the public nature of the material on the web concerns instructors who are used to class material being kept within the control and view of the classroom.

In developing this project, one of the key goals was to give instructors access to common pedagogical web tools in one place. The

literary computing website attempts to bring together as many of the common web tools used in English and humanities classes as possible. However, these tools are generally online replacements or enhancements of traditional pedagogical methods: the syllabus, assignments, and schedule posted online provide a type of course memory; the menus and links allow instructors to bring course content and research into the class from online sources; the discussion questions and discussion group provide a manner of class discussion and an opportunity to post student writing and conduct peer review; and the file manager and online WYSIWYG web editor allows students to post their writing and implement hypertext composition.

There are also some features from the "ideal" pedagogical web site described at the beginning of this chapter that were not implemented in the literary computing web site for the Department of English: a synchronous discussion tool, style and layout selection, quantitative text analysis tools, and a resource sharing system. I will now briefly outline why these features were not part of the site produced. As mentioned, a synchronous discussion or "chat" feature was not implemented due to time constraints. Other web-based chat systems were readily available to instructors who wanted them (e.g., ICQ ("I Seek You"), Microsoft Messenger, Yahoo Messenger, etc.) and

this feature was not high on the computing committee's priority list. However, integrating a chat feature into the site will not be difficult and would make synchronous chat much more accessible to students and instructors as they will not have to sign up for and learn to use general WWW-based chat tools. Allowing instructors to customize their course web pages by selecting styles and layouts in the administration portion of the site or by uploading their own customized templates was simply too time-consuming to be practical for the Department of English site. As this was a wholly aesthetic feature, the committee and I decided to drop it as time (and research assistantship funding) ran out.

Making integrated quantitative text analysis tools available on the literary computing site would have been a difficult and time-consuming endeavor. The web-based tool HyperPo, described in the previous chapter, offers most of the quantitative analysis tools an ideal literary computing web site should have. However, this tool is primarily geared toward French text analysis, and is still under refinement as part of the new Text-Analysis Portal for Research (TAPOR) initiative. If a literary programmer was able to build on HyperPo's implementation an "ideal" WWW text analysis tool would be much more attainable. The teaching resource sharing tool met some opposition from instructors on the computing committee who were

concerned about if and how the time spent developing such web-based teaching resources would be rewarded. This concern, along with other obstacles that face the development of an all-in-one WWW-based tool for English literature and composition instruction, will be explored in the following chapter.

Chapter 4

CONCLUSION: OBSTACLES TO WEB-ENHANCED PEDAGOGY IN ENGLISH LITERATURE AND COMPOSITION

As I attempted to demonstrate in the previous chapters, technology-enhanced pedagogy using the WWW in English Literature and Composition classes is not without its problems or obstacles. However, positive trends in the valuation of electronic publications and the valuation of teaching paint a bright portrait for the future of this type of scholarship. As computer labs at university campuses become more plentiful and students and instructors become more familiar and comfortable with WWW technology, we will see an increasing number of web-enhanced English courses. This chapter will cover some obstacles that technology-minded instructors may face and gives some reasons to hope for an improved status for instructional technology in the future.

Hypertext and the WWW have the potential to stretch students and help them to think in new and dynamic ways. However, this benefit comes at a cost for the instructor; as hypertext makes it easier for "students to read and think in these more sophisticated ways, hypertext also increases our responsibility to teach them how to do this" (Smith

125). The problem of time, especially at this early stage of web-enhanced teaching, is an especially real concern. In Tammy Winner's qualitative analysis of three instructors who incorporated the web into their composition classes, she identified one of the greatest problems for the instructors as the large amount of time they had to invest to manage the courses, time not compensated by their department in any direct way (12). However, this problem is the motivation behind such all-in-one WWW systems as those described in the previous chapter. As these web sites are developed and become more integrated and easier to use, instructors will be able to use these web tools in their classes with a minimum of time and effort spent. The work I conducted for the computing committee of the Department of English will make it easier for instructors in that department to introduce WWW-enhanced instruction to their students.

A very practical, but no less significant obstacle is technical support for these tools. Servers, computer labs, and support staff are all components that will make the use of the web in courses more effective and less disruptive. In Winner's case studies, the instructors who were most effective were those who had this technical support in place, where computer labs were available during and after class so students could access the web and work on assignments (13).

A final obstacle, and one that is not easily dealt with, is the concern instructors have with making their pedagogy public by putting it on the WWW. This concern is well articulated by the members of the College Writing Peer Response Project:

> When teachers make mistakes as they perfect new methods, these mistakes can normally be hidden behind the doors of the classroom. But in the public arena of the Internet, there is no hiding. Once visible on the Web, a teacher whose new approach leads to substandard student work, such as limited or poor writing, is open to criticism. (Mauriello et al. 411-2)

In the short term, giving instructors control over who may see their instructional resources can largely alleviate this concern. However, as instructors increasingly demand that teaching contributions be valued as highly in their evaluation for promotion as research contributions, the demand for peer review should increase as well. The instructional resource sharing concept and the obstacles it encounters that I detailed in the previous chapters truly encapsulates this struggle.

In the section detailing resource sharing in the second chapter, I included a quotation from Jonathan Smith discussing how, in his use of Landow's *Dickens Web* and *Middlemarch* in his English classes, students' work would be used by other classes to integrate courses and provide

material for courses in the following years. In an attempt at full disclosure, Smith also notes that he

> made clear to my students from the beginning that their work was being written for the web, and that future classes would read it. This seemed, however, to have no discernable effect. Indeed, one student asked in class, with others nodding in agreement, why they should have to do the work that others would benefit from? (126-127)

This same resistance was expressed among instructors in the Department of English, where questions immediately arose about the security of their work and how their investment in making these teaching resources would be rewarded by the department when it would help alleviate some of a colleague's teaching burden. While giving them control over who could access their course web site answered their former concerns, I could do nothing for the latter. The end result was the instructors believing that sharing their work so that other instructors could build on it was not professionally feasible in the current academic climate. Though cautious attitudes among instructors were certainly a factor in this result, I believe that it is the institutional atmosphere—which seems to privilege research above teaching by having no structure in place to recognize or reward the construction or quality of instructional materials—that fosters these attitudes.

The envisioned resource sharing feature remained a proposal

rather than an actualized project due to concerns about sharing one's hard work when no real process is in place to recognize that work and reward it in the tenure or promotion process. At the University of Alberta, though the official stance is that teaching and research are equally valued, the funding process shows a clear imbalance: high quality research is funded while high quality instruction material is generally unrecognized. Indeed, the Department of English's computing committee created a report during the literary computing website project that dealt with this very issue. The concern was that instructors who created instructional web pages that were shared with other instructors would invest their valuable time without seeing any kind of recognition for their work:

> Course modules designed by individual instructors are to be available to other instructors if they choose to use them in their teaching. However, appropriate recognition or remuneration of individually designed course modules by instructors should be guaranteed by the department. This is not necessarily defined as financial (although that may play a role), but rather the explicit recognition of computer related work (a publication in itself from a humanities computing viewpoint) in the FEC [Faculty Evaluation Committee] report which currently has no section for computer-related contributions. (van Woudenberg 1)

Ernest Boyer formulated this imbalance in how each facet of scholarship was evaluated. Boyer's project was intended more

realistically to define the full range of faculty work as scholarship, to give it a fuller and broader meaning so as to incorporate much of the "unrecognized" work that academics do beyond conducting original research: "What we urgently need today is a more inclusive view of what it means to be a scholar—a recognition that knowledge is acquired through research, through synthesis, through practice, and through teaching" (24). He thus created four categories of scholarship: the scholarship of discovery (what is typically though of as "research"), the scholarship of integration (interpretation of isolated data by drawing them together to draw conclusions), the scholarship of application (determining how to apply knowledge to articulated problems), and the scholarship of teaching (teaching and enticing future scholars) (16-25). Boyer formulated this new framework for scholarship based on national surveys of American Faculty in 1989 conducted by the Carnegie foundation. These surveys revealed that a strong majority of respondents (62% agreeing versus 31% disagreeing) felt that how effectively an instructor teaches should be the primary consideration in faculty evaluation (32).

However, though this trend of devaluing the scholarship of teaching is showing signs of diminishing, it is still strongly felt at many institutions: "In the final analysis, service and teaching are less valued

than publishing, which all too often ends up as the single standard for evaluating many faculty, whose reputations often become the most important standard for assessing their programs and departments" (Yee 259). To be fair, this is probably due to the ease with which publications can be measured and evaluated as opposed to the quality of instruction (Boyer 29).[20] However, instruction and instructional technology is given very little consideration—both in terms of funding and in terms of advancement—due in large part to the secondary status of teaching: "Even if [educational] software development gains the recognition and rewards envisioned above, it will still have merely subordinate effect if teaching continues to have secondary status in decisions on professional advancement" (Lougee 145).

These institutional obstacles may seem insurmountable with respect to resource sharing. However, as I have noted, the use of an

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[20] "Thus the issue specific to electronic instructional media converges with one of the most important, and intractable, issues facing higher education in general: finding means of gaining an accurate enough picture of instructional quality and educational efficacy that institutions can base rewards upon them with as much confidence as they currently have in evaluations of faculty members' research." (Lougee 145). That said, there seems to be some mistrust among faculty about how qualitatively publications are measured. The Carnegie Foundation National Faculty Survey found that 38% of respondents agreed with the statement, "At My Institution, Publications Used for Tenure and Promotion Are Just Counted, Not Qualitatively Measured," while only 37% disagreed (Boyer 33).

online resource sharing tool would allow usage statistics to be compiled; not only would the tool keep track of which resources were accessed, by whom, and how many times, but also how a particular resource was expanded by another instructor, and how the new resource is being used. This would allow instructors to demonstrate the quality of their instructional materials quantitatively and promotion committees to measure their teaching contributions, much along the lines of publication citation data. Indeed, the precedent in this field of evaluation suggests that this general peer review will become more and more popular for faculty evaluation (Sweeney). Again, by having instructional materials available for use in their classes, professors would have more time for research while providing an even-more fulfilling learning experience for their students. Here, of course, the concern among faculty about making their teaching public and subject to peer review must be weighed against their desire to have their teaching contributions evaluated on par with their research publications. Unfortunately, I cannot speculate about how this struggle will play out, though I believe that, should teaching become peer reviewed as rigorously as are research contributions, the student will benefit enormously.

The great success of Landow's "bootstrapping" and the student-

contributed hypertexts of others discussed in previous chapters should convince us that a hypertextual repository of instructional material to be shared with, expanded by, and inter-associated with other instructors would be a valuable educational tool alongside the other WWW-based instructional tools presented. It remains to be seen if the institutional obstacles will be overcome in order to provide rich benefits to both professors and students: quality instructional materials, measurable teaching contributions, and easily created course resource sites are foreseen, but what benefits will be unearthed once empirical observation is possible?

As I mentioned at the beginning of this chapter, there are plenty of reasons to hope for positive change in how web-based instructional materials are perceived and recognized at the institutional and professional level. The Modern Languages Association's ad hoc committee on the Future of Scholarly Publishing produced a report that recommended statements about how peer review was conducted accompany all electronic publications to ensure that they are fully considered alongside print publications for faculty review (Ryan et al. 181). The committee also recommended that guidelines for evaluating electronic publications and electronic instructional resources, such as web archives, be developed by language departments for use in faculty

review (183). The Social Sciences and Humanities Research Council of Canada (SSHRC) produced a report about the future of humanities scholarship that made very positive recommendations about the importance of teaching and the importance of web-based resources. The Working Group on the Future of the Humanities urged institutions to recognize the importance of teaching and research in the humanities (23). The group also challenged researchers in the humanities to "exploit new technologies as transformers of modes of writing, as important components of humanities teaching, research and dissemination," and universities to "review and revise university promotion and tenure criteria to acknowledge and reward the value of scholars' public intellectual work and outreach activities as well as their use of new media to disseminate research results to a wider audience" (24). The future indeed seems bright for technology-enhanced instruction in humanities classrooms. These recommendations from professional and funding agencies affecting the field of literary scholarship are backed up with empirical evidence as well. Aldrin Sweeney distributed a questionnaire that asked both administrators and faculty in Florida to evaluate their perception of the peer review process in electronic publishing, their perception of the academic rigor demonstrated by those who publish electronically, and how electronic

publications should be counted in the tenure and promotional review process vis-à-vis print publications. In all cases, the results suggested that electronic scholarship is now perceived to be as valuable as research published in printed sources (Sweeney).

The positive trends detailed in this chapter should encourage the English Literature and Composition instructor who incorporates the web into teaching. As web-based instructional material continues to grow in prestige and the scholarship of teaching continues to increase in value in terms of faculty evaluation, we will see an increasing focus on how the WWW can improve the teaching and learning experience.

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